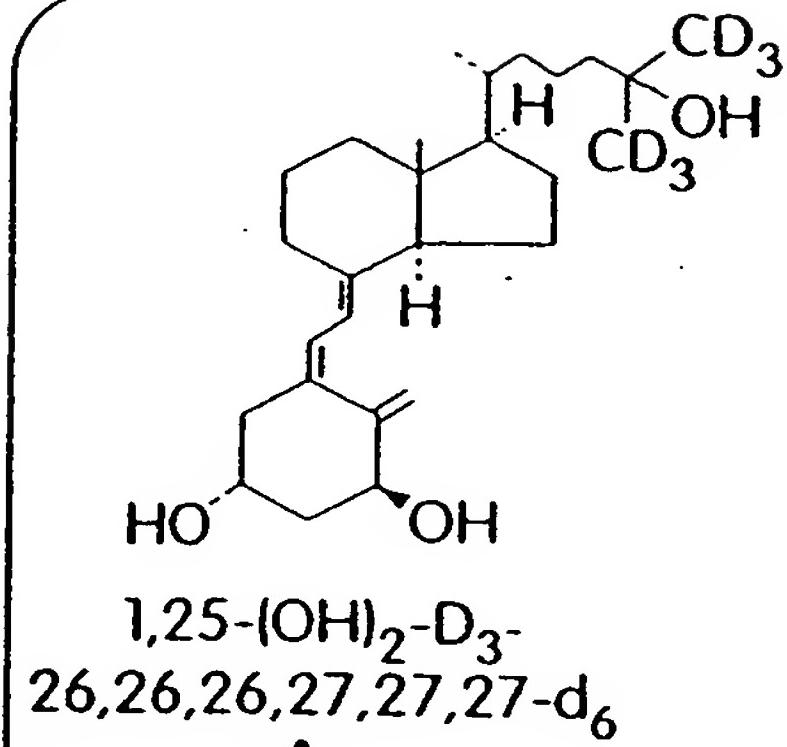
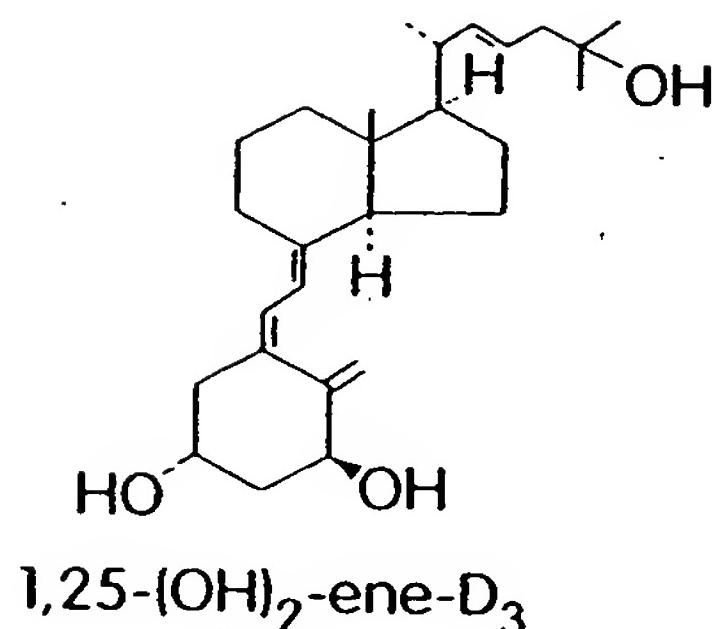




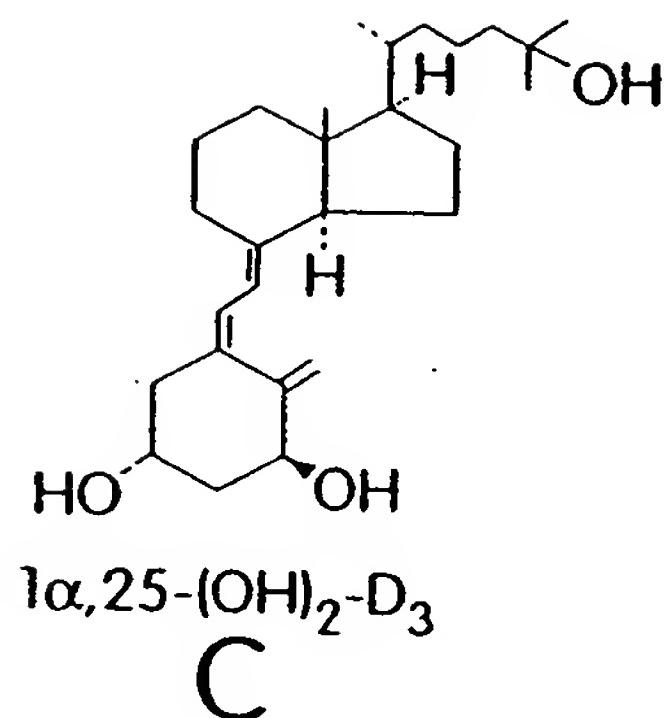
1/36



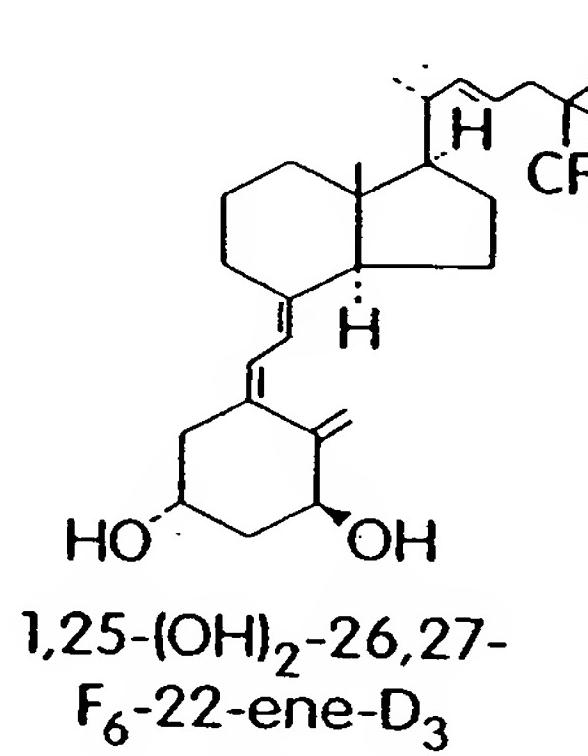
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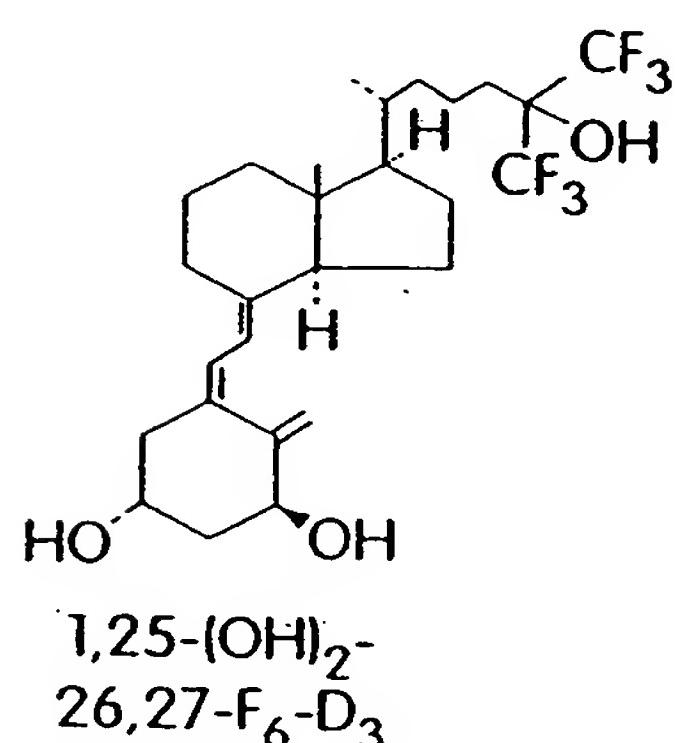
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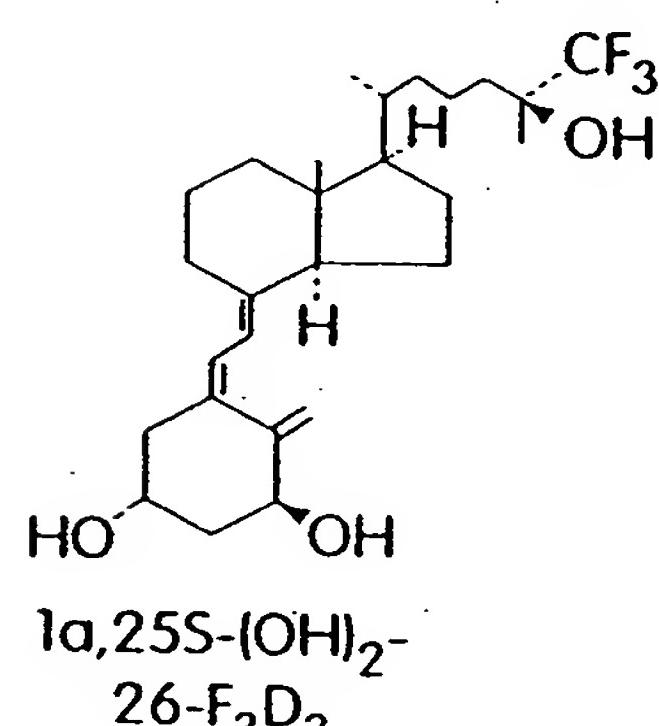
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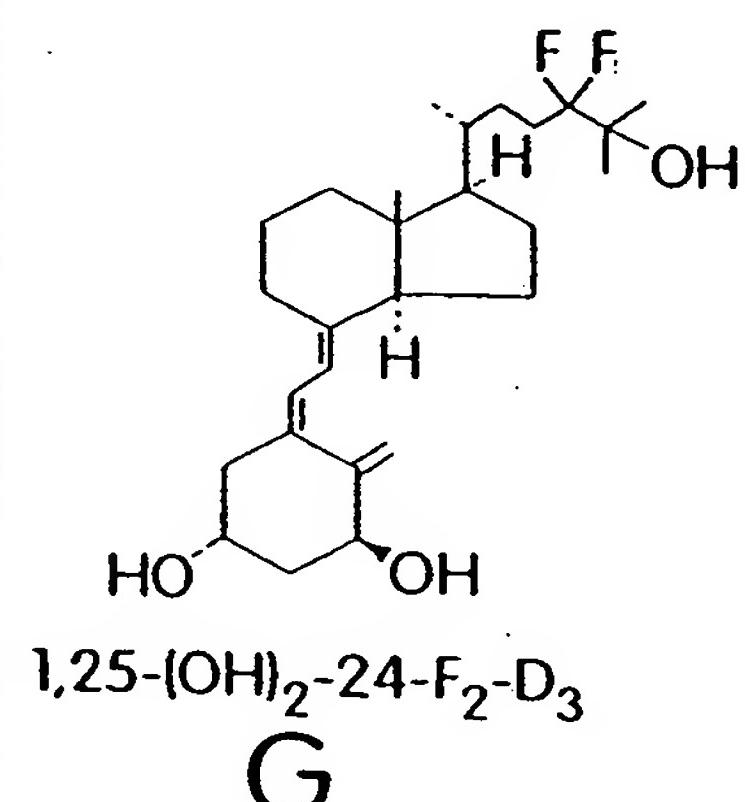
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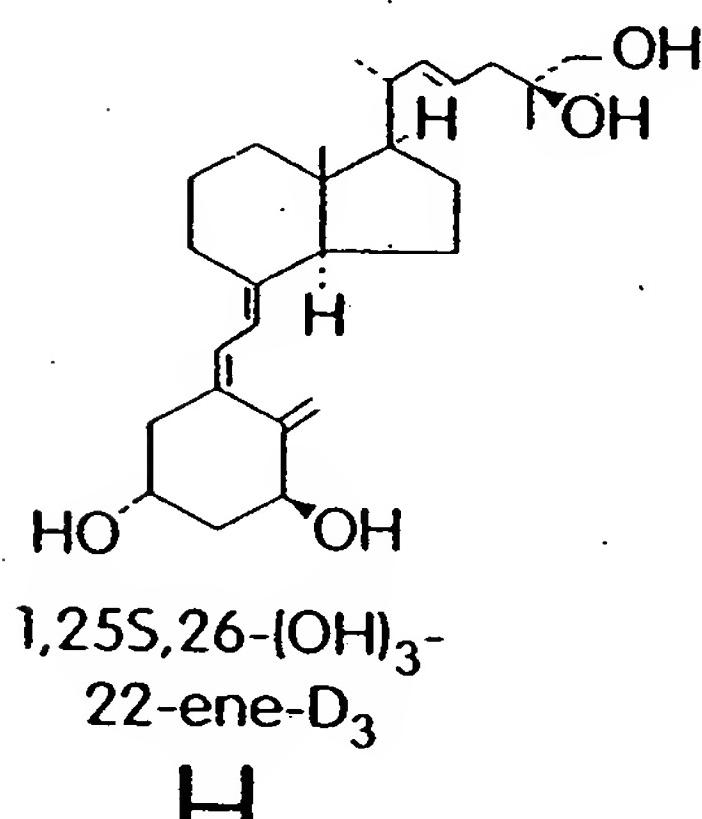
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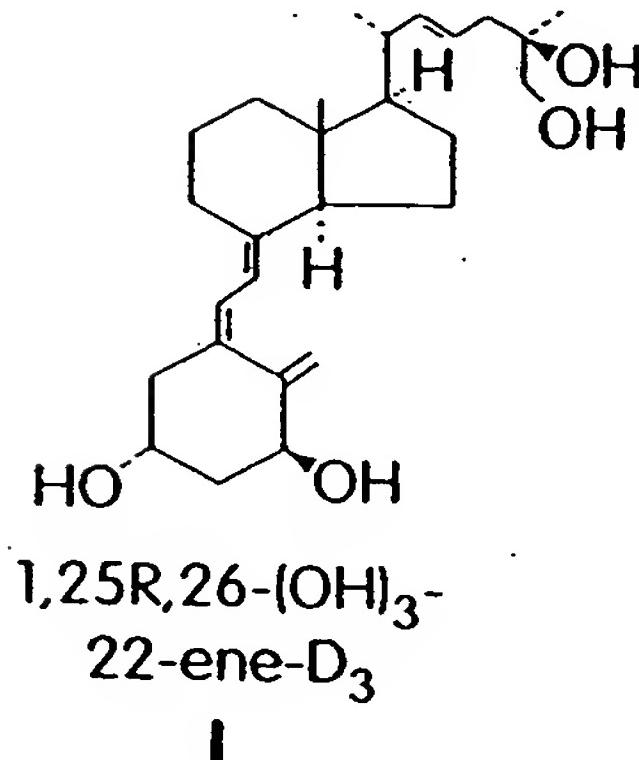
F



G



H



I

Fig. 1

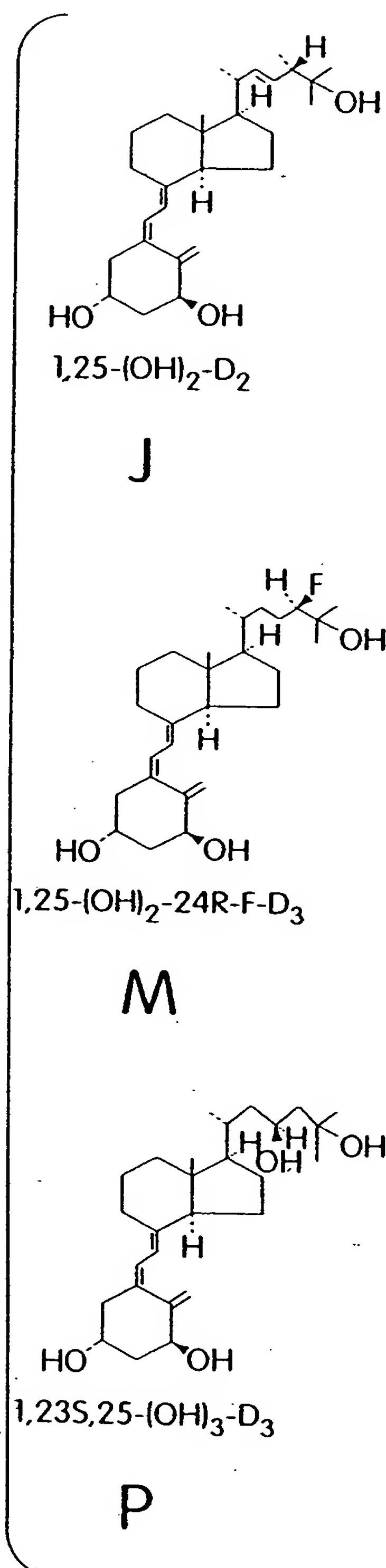
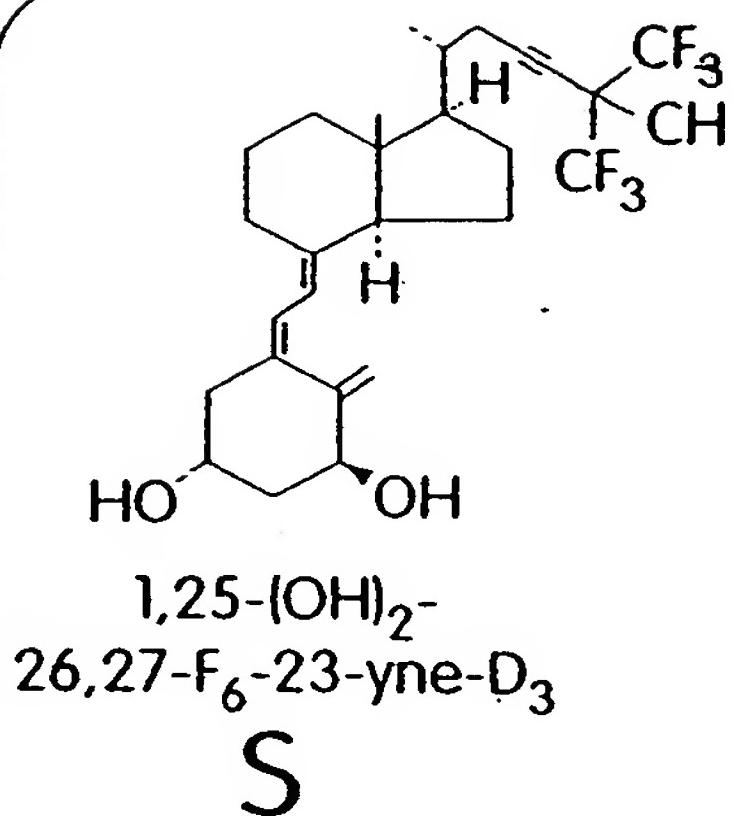
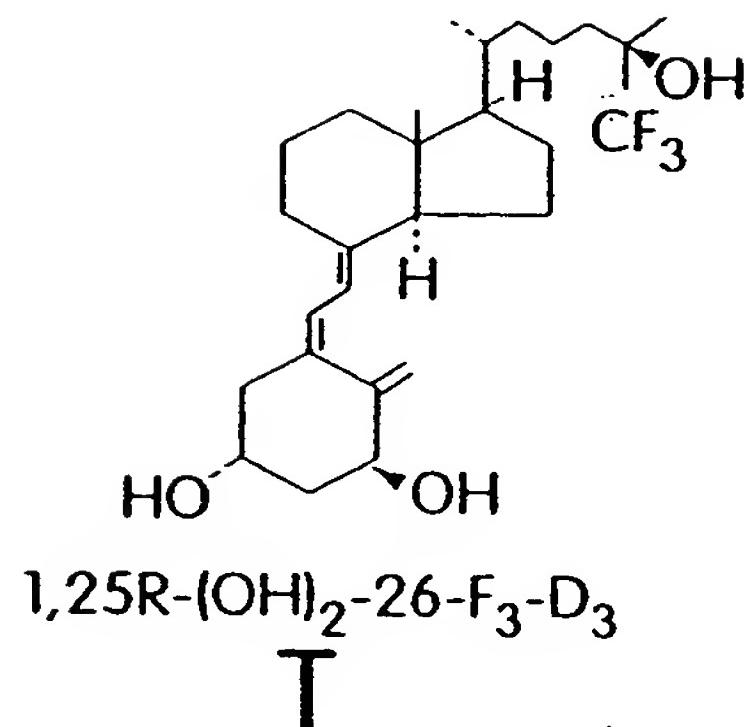


Fig. 1A

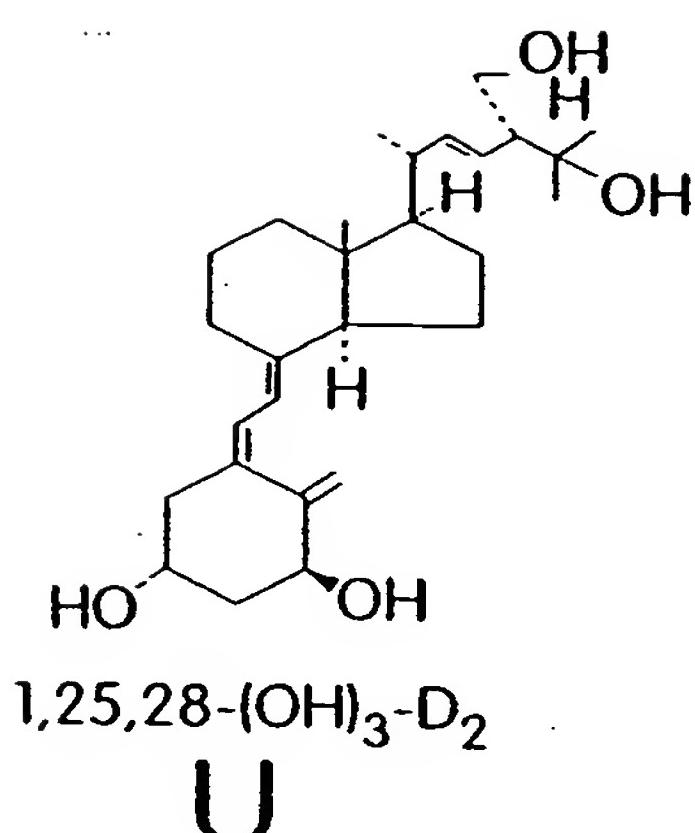
3/36



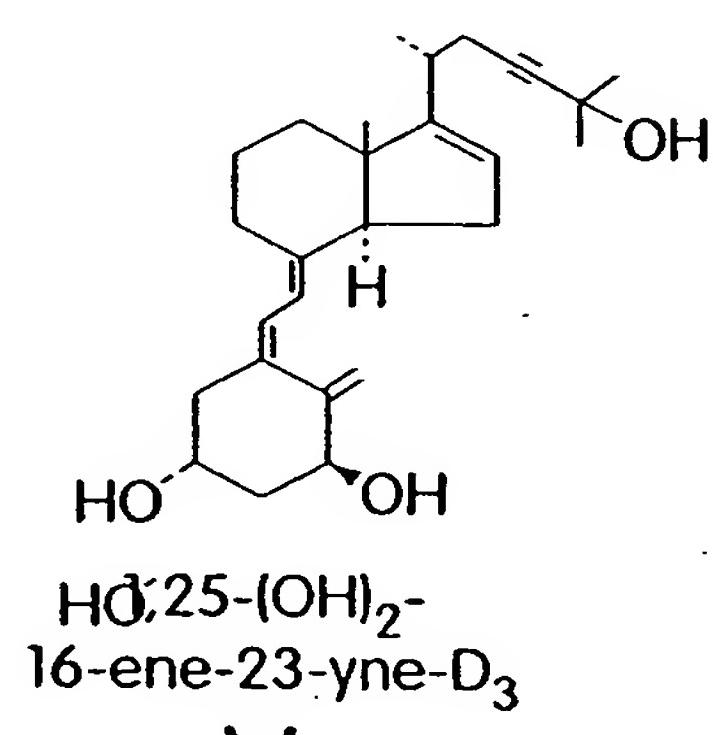
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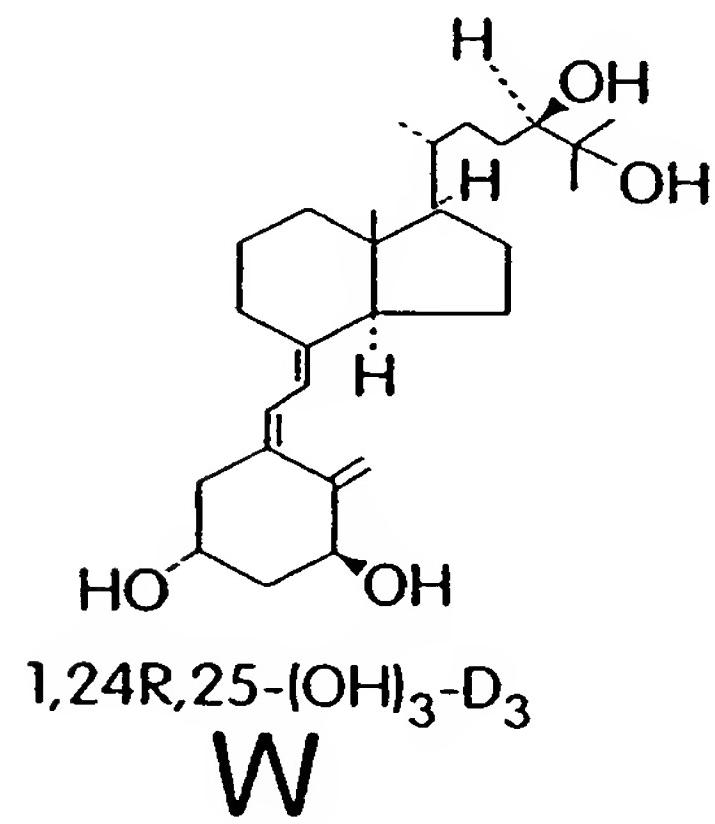
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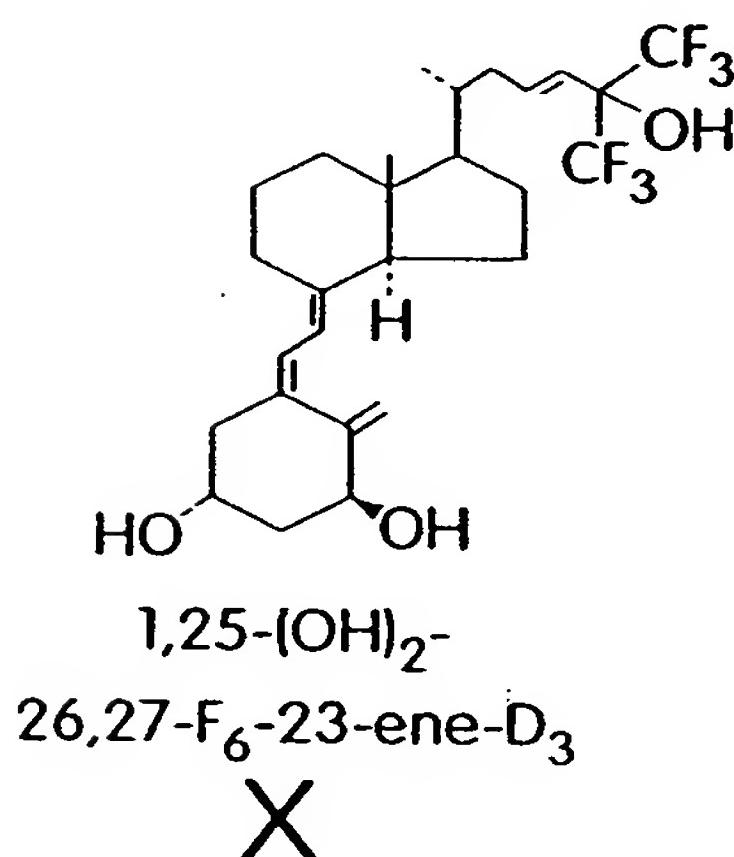
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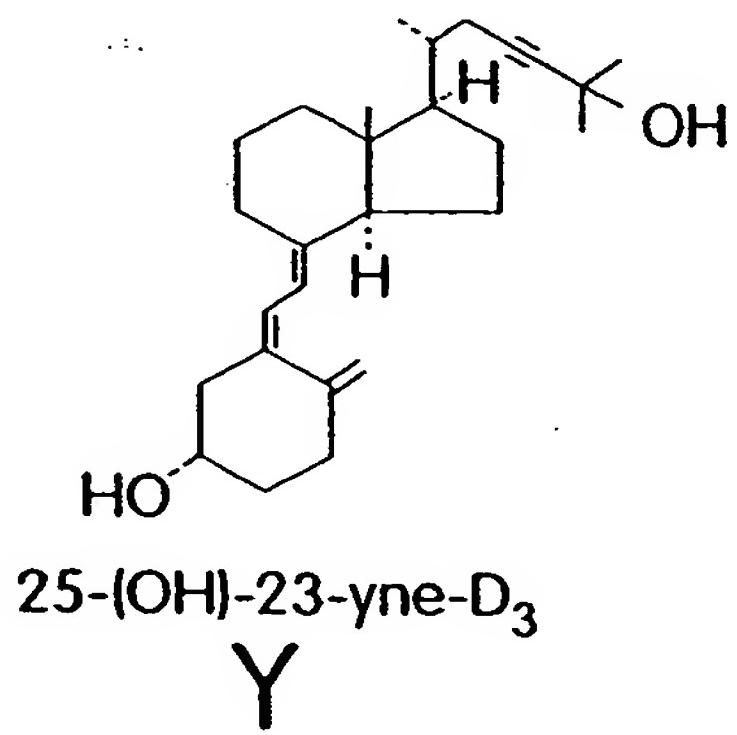
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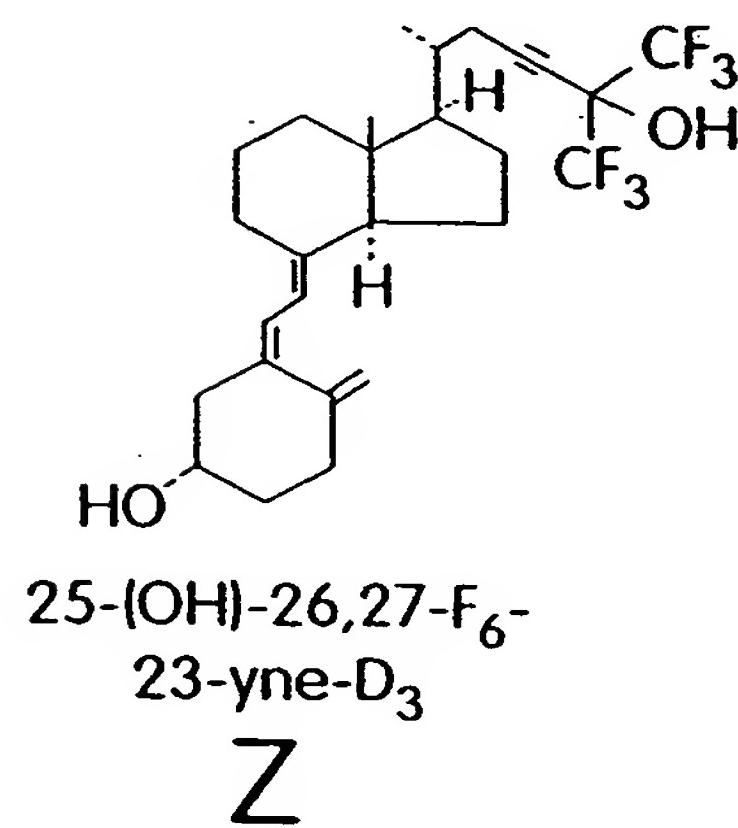
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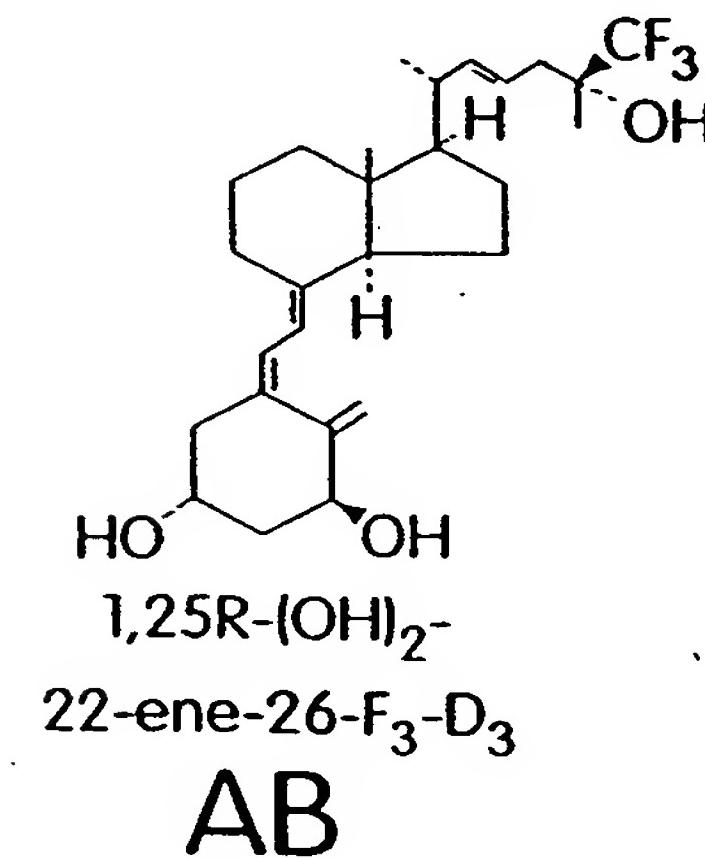
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Y



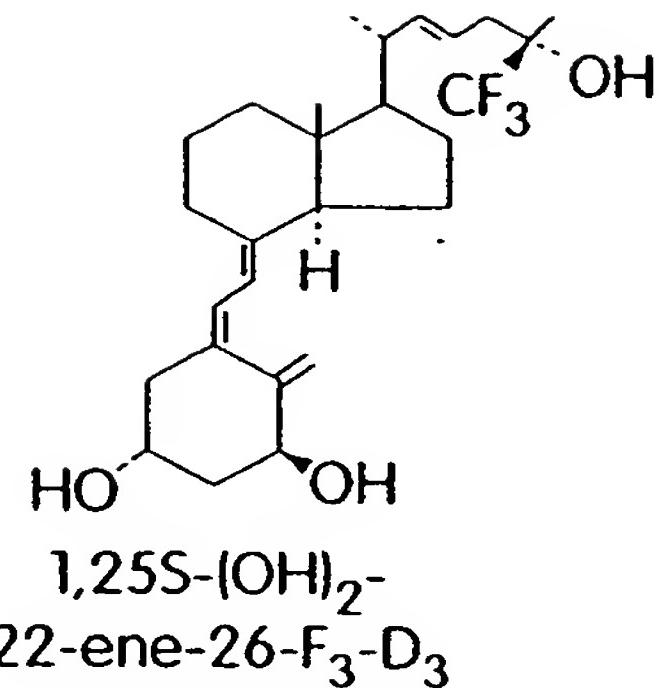
Z



AB

Fig. 1A-1

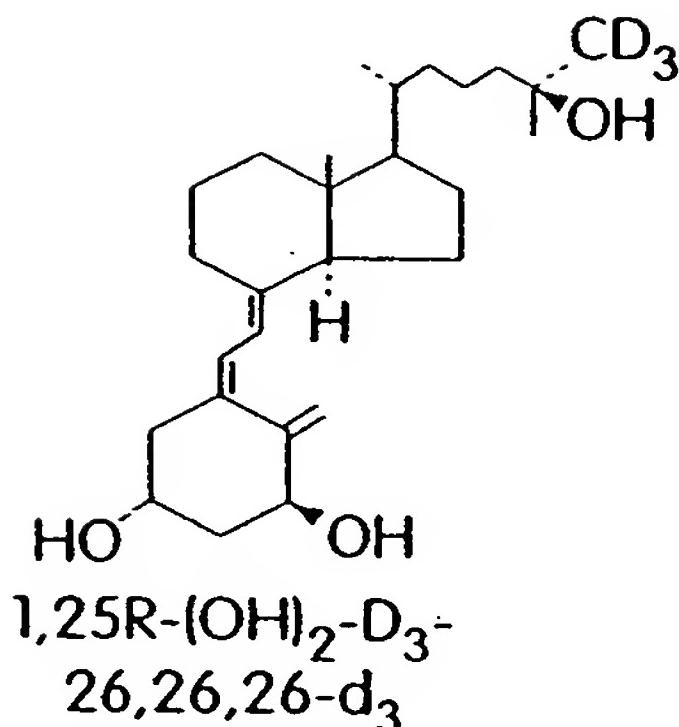
4/36



1,25S-(OH)₂-

22-ene-26-F₃-D₃

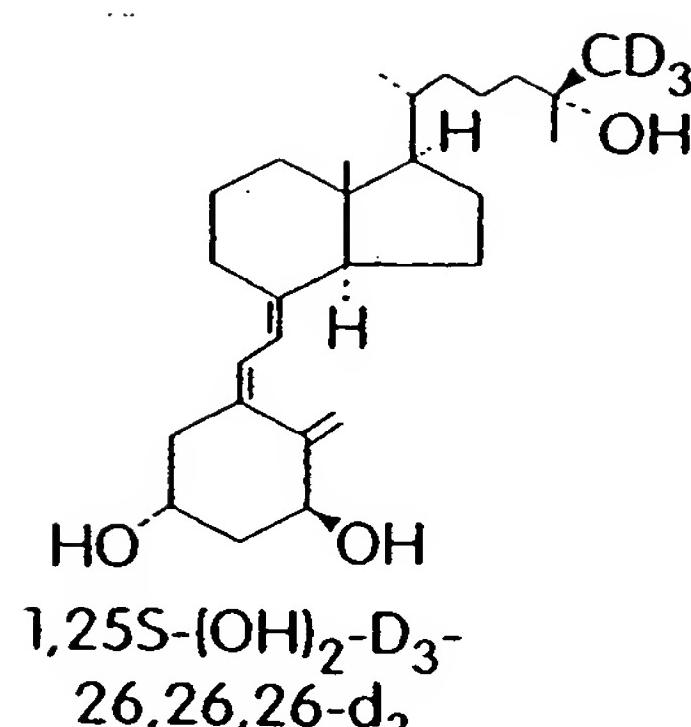
AC



1,25R-(OH)₂-D₃-

26,26,26-d₃

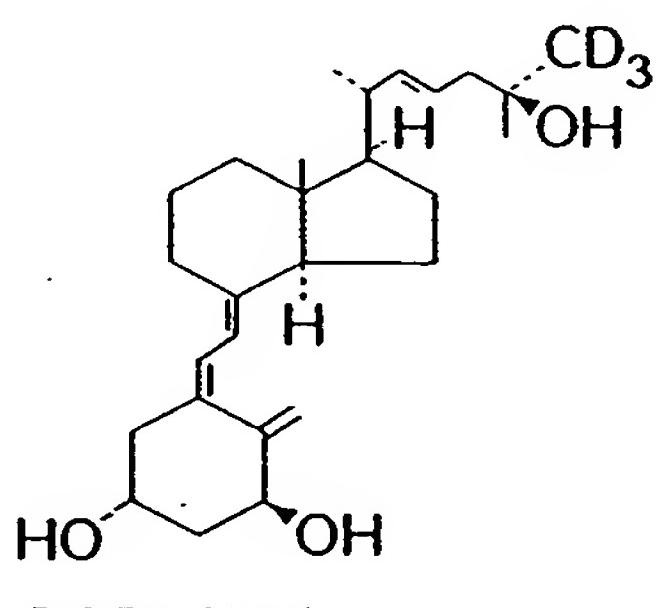
AD



1,25S-(OH)₂-D₃-

26,26,26-d₃

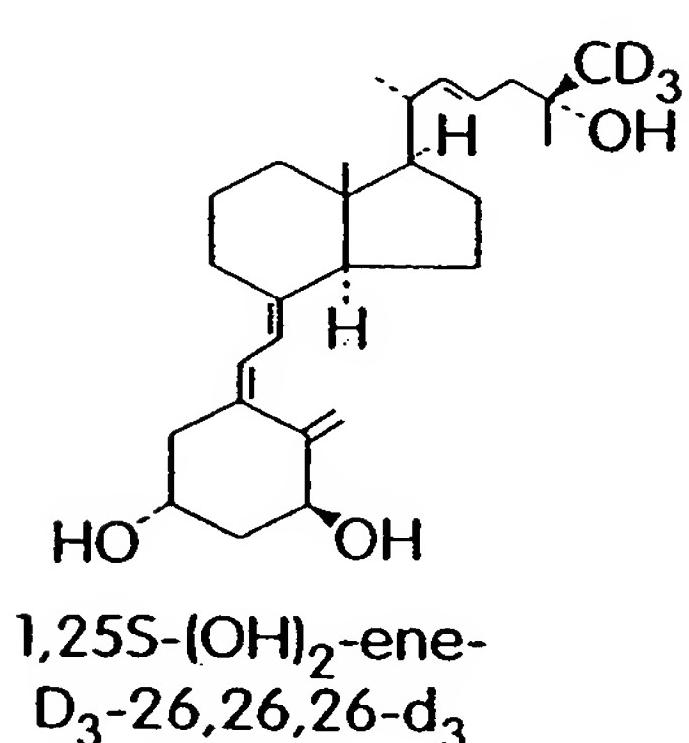
AE



1,25R-(OH)₂-

22-ene-D₃-26,26,26-d₃

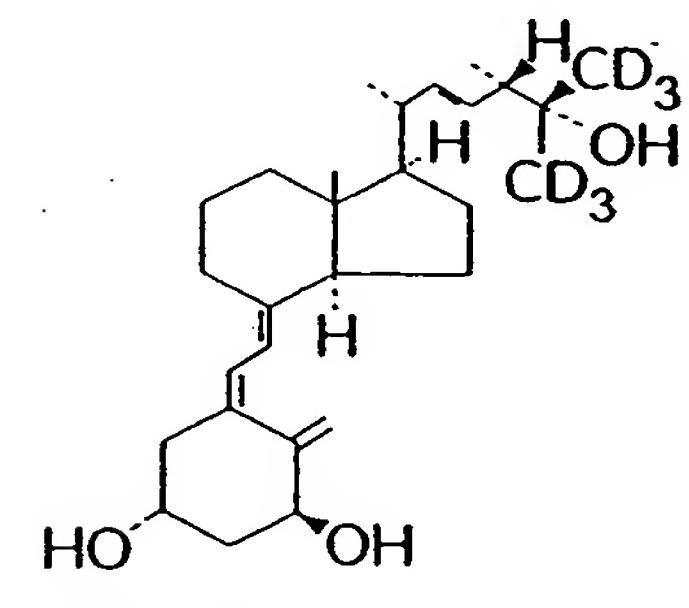
AF



1,25S-(OH)₂-ene-

D₃-26,26,26-d₃

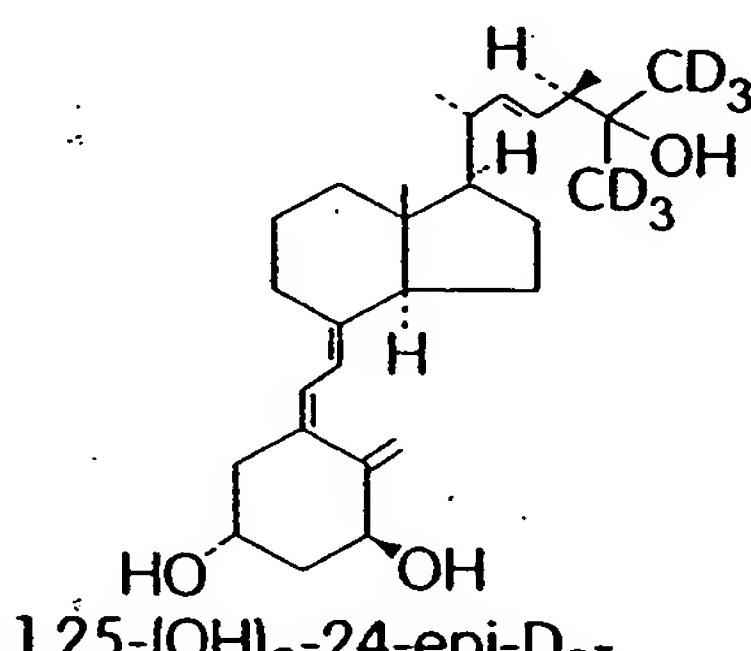
AG



1,25-(OH)₂-D₂-

26,26,27,27,27-d₃

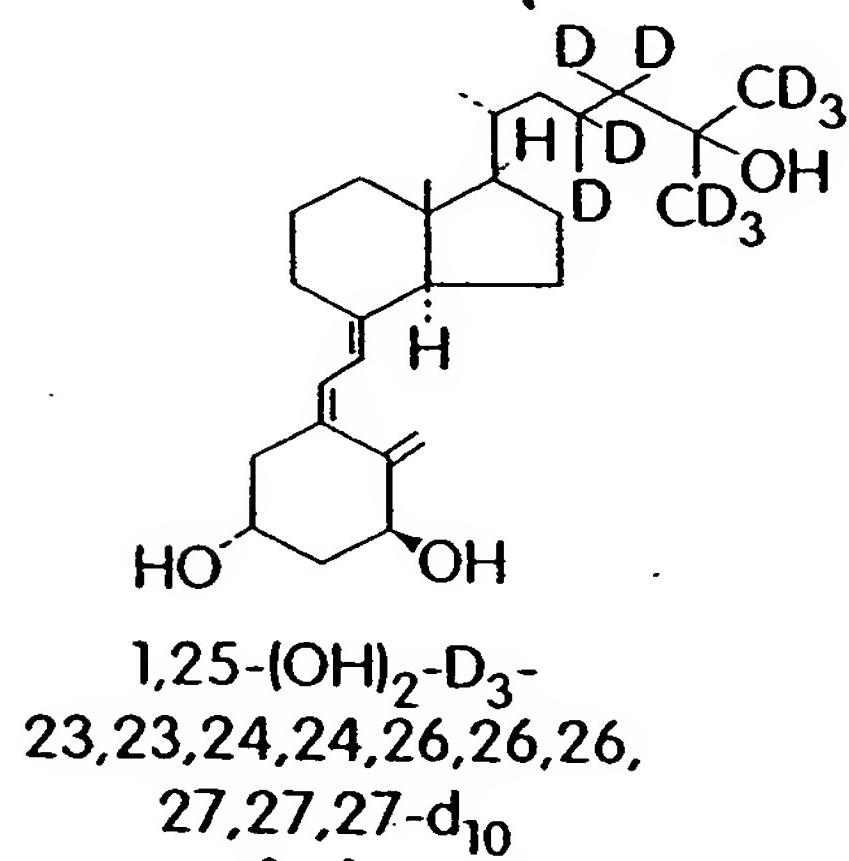
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1,25-(OH)₂-24-epi-D₂-

26,26,27,27,27-d₆

AI

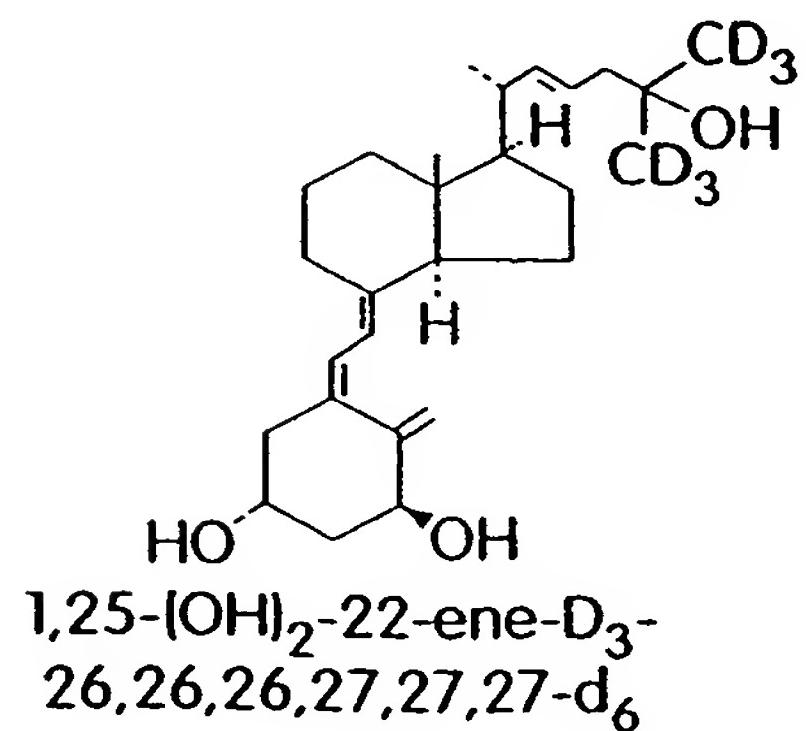


1,25-(OH)₂-D₃-

23,23,24,24,26,26,26,

27,27,27-d₁₀

AJ



1,25-(OH)₂-22-ene-D₃-

26,26,27,27,27-d₆

AK

Fig. 1A-2

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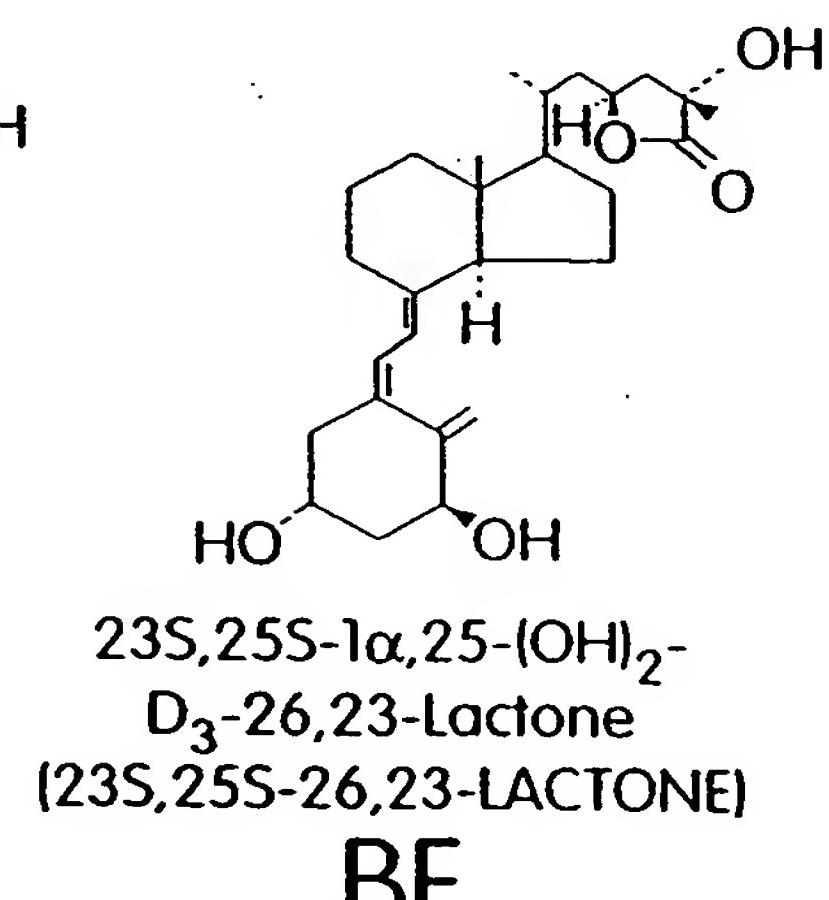
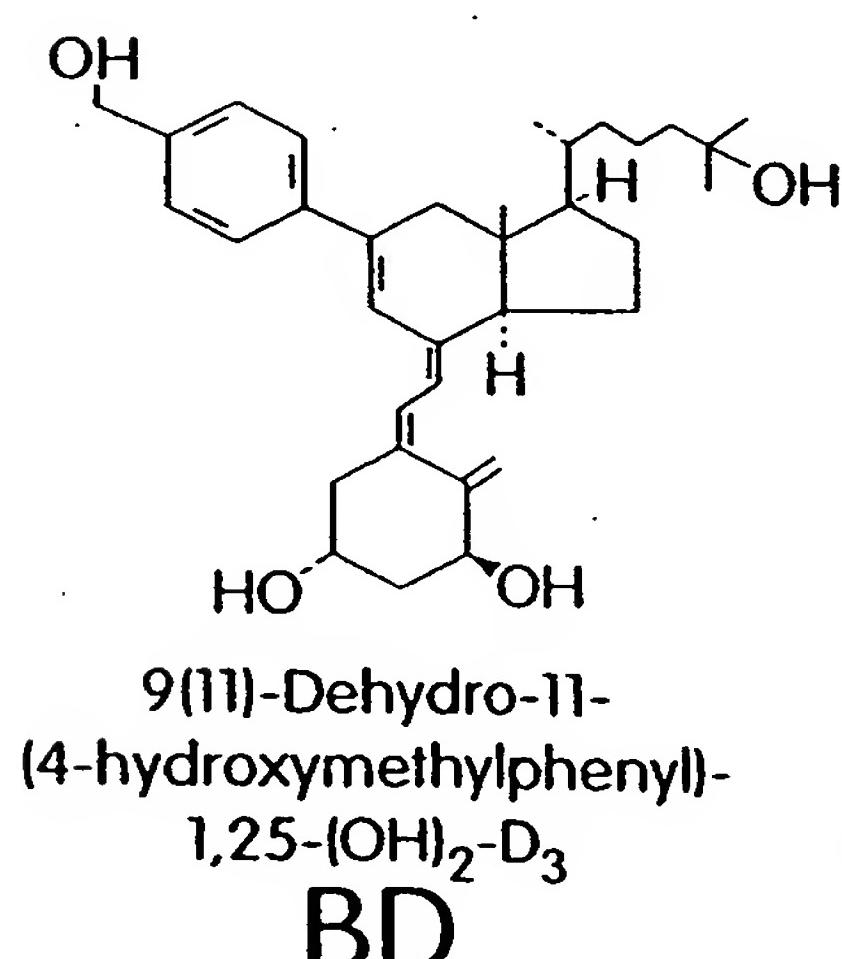
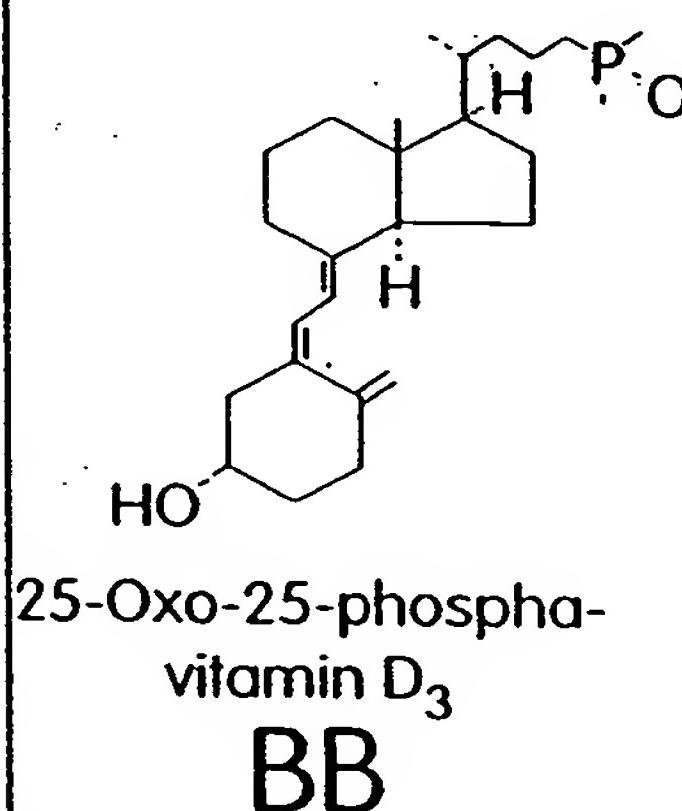
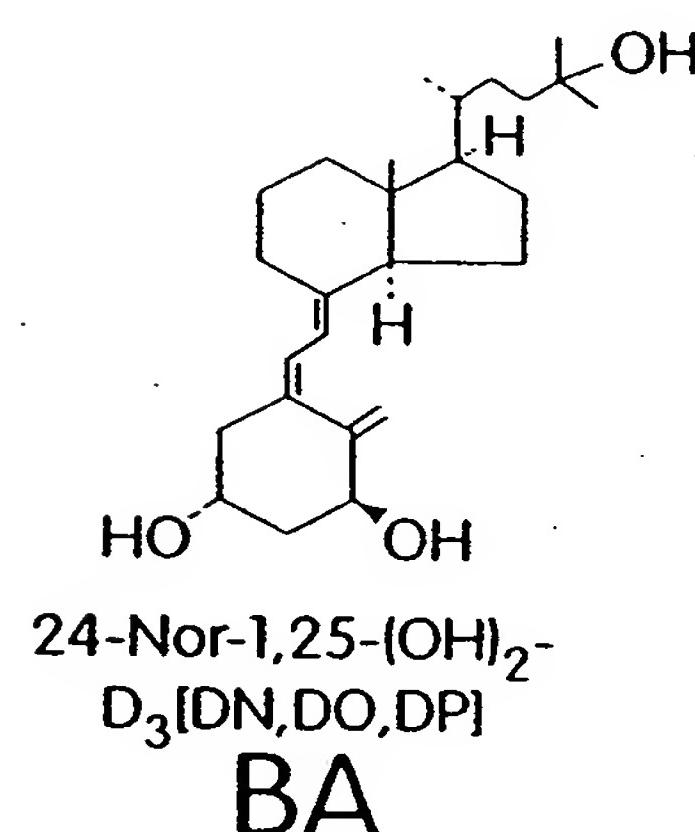
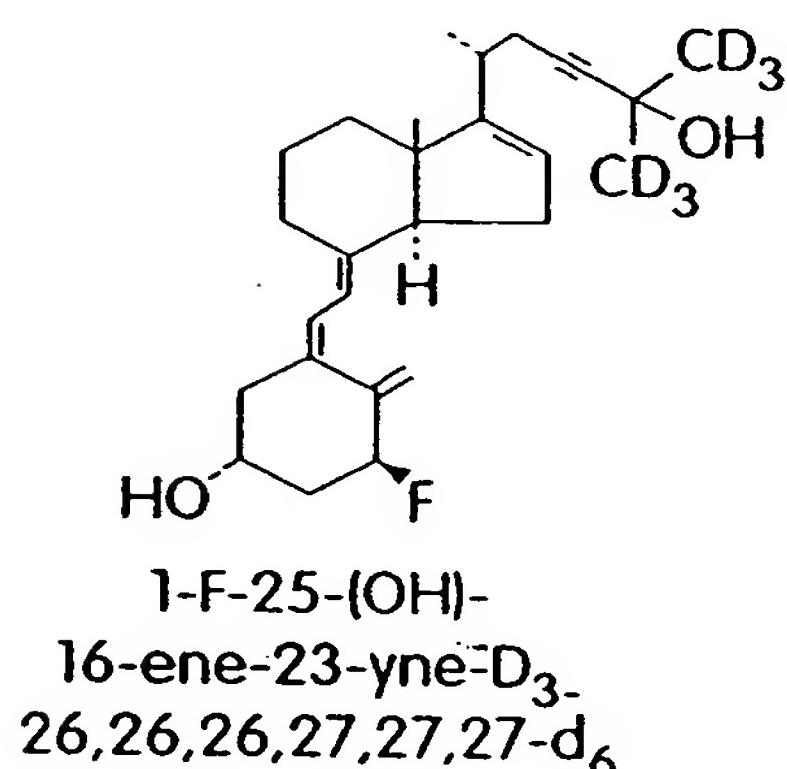
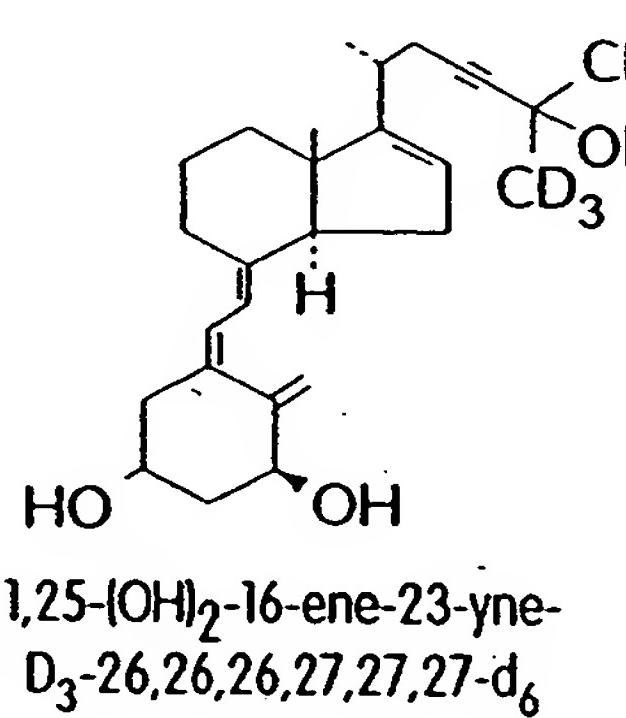
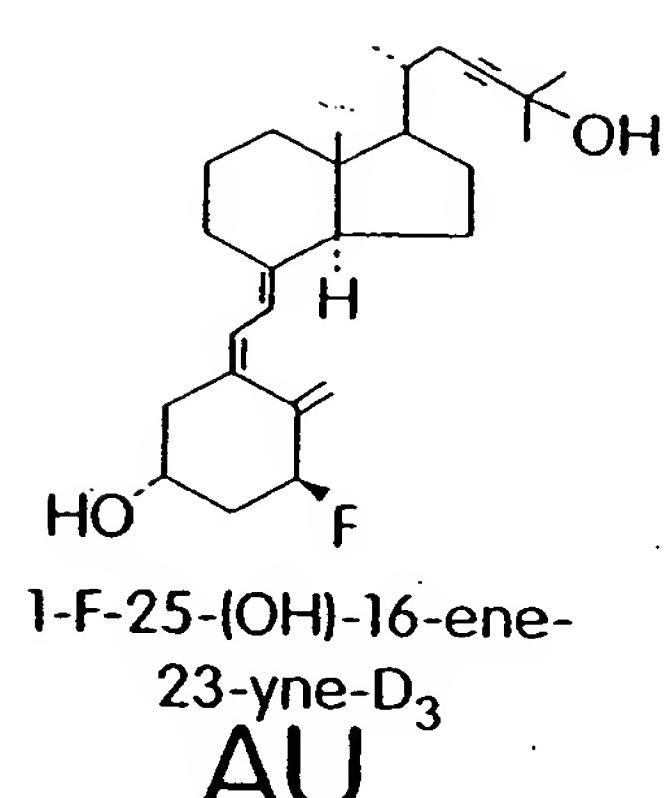
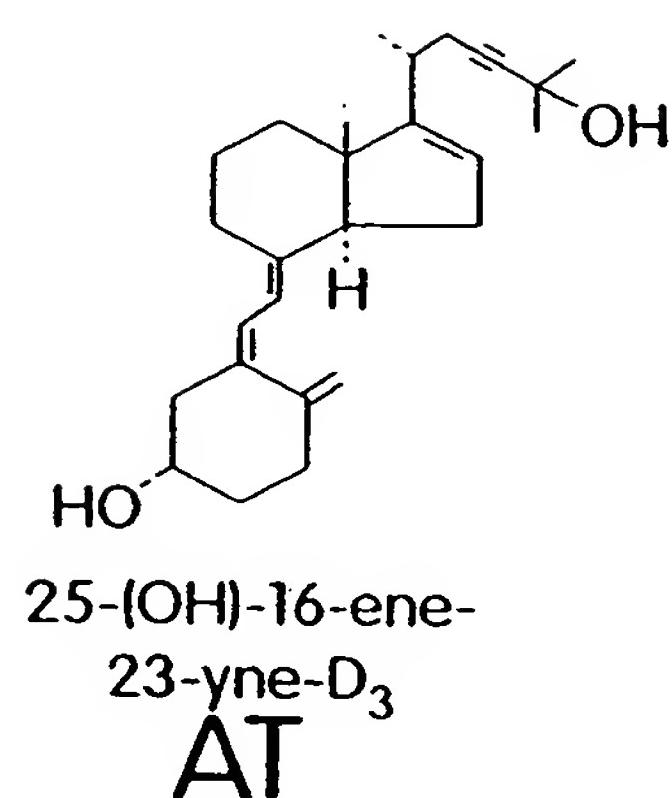
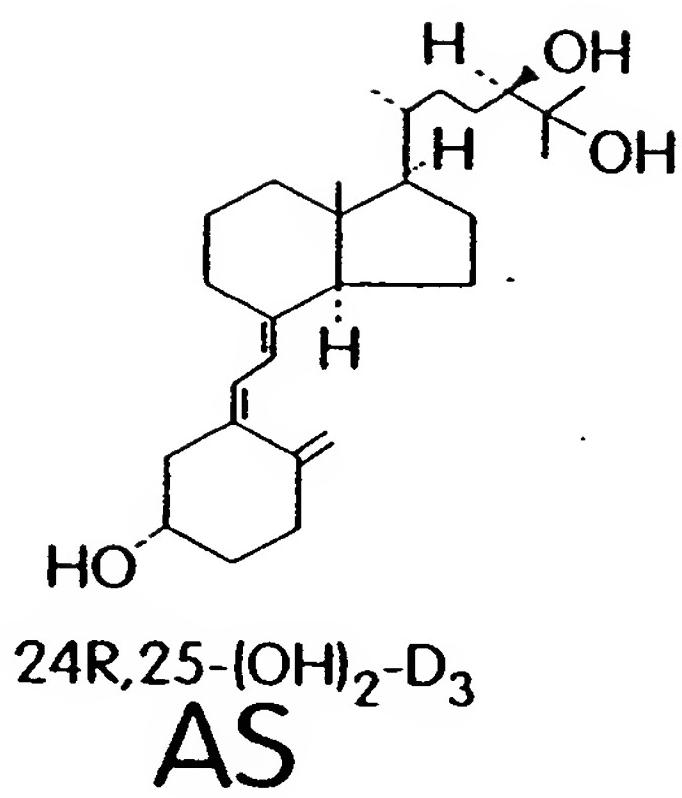


Fig. 1A-3

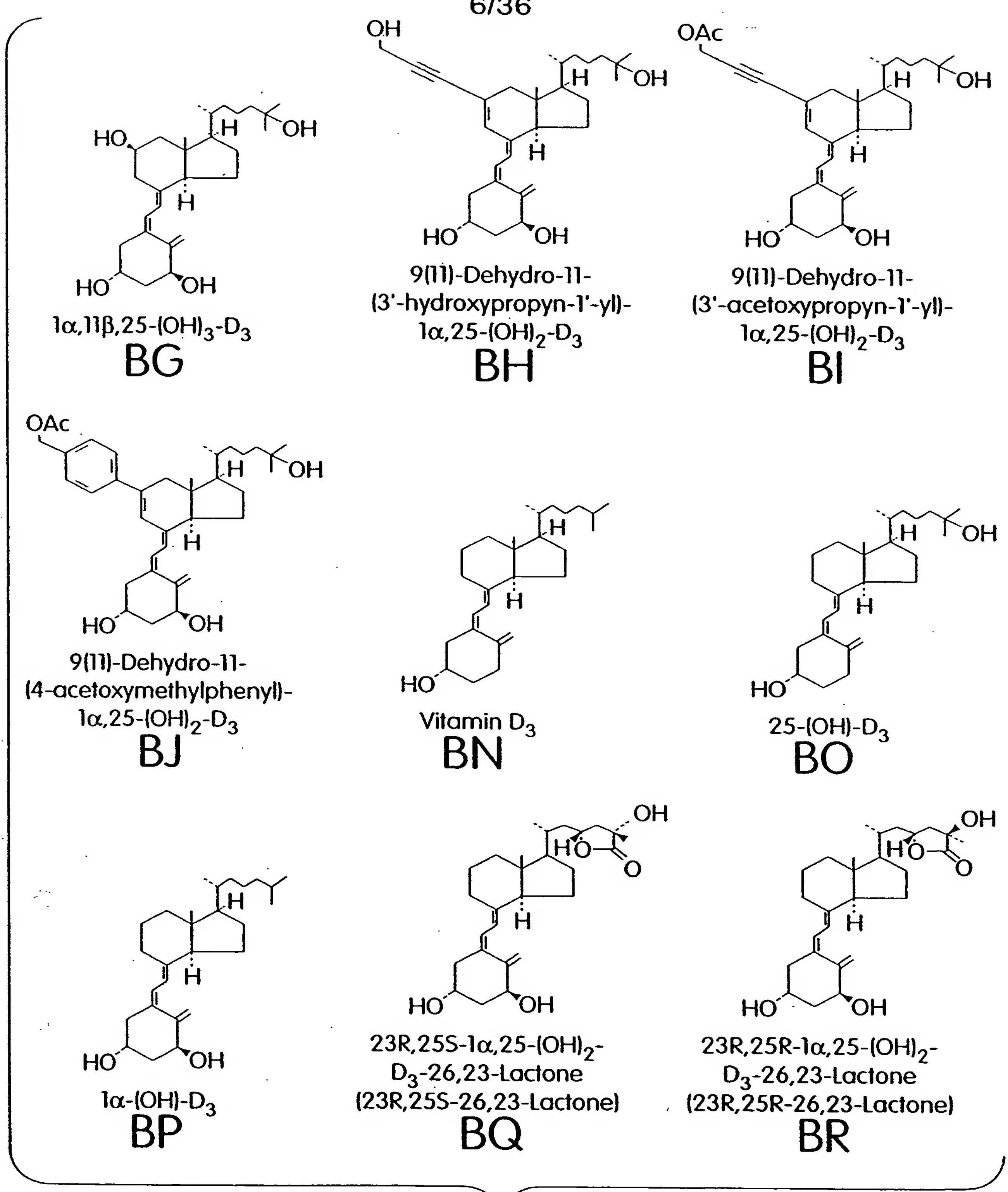


Fig. 1A-4

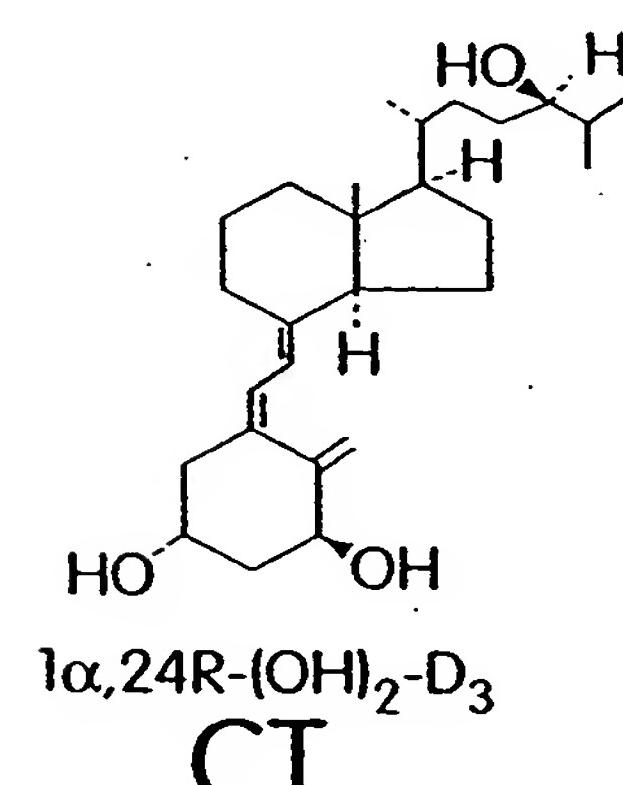
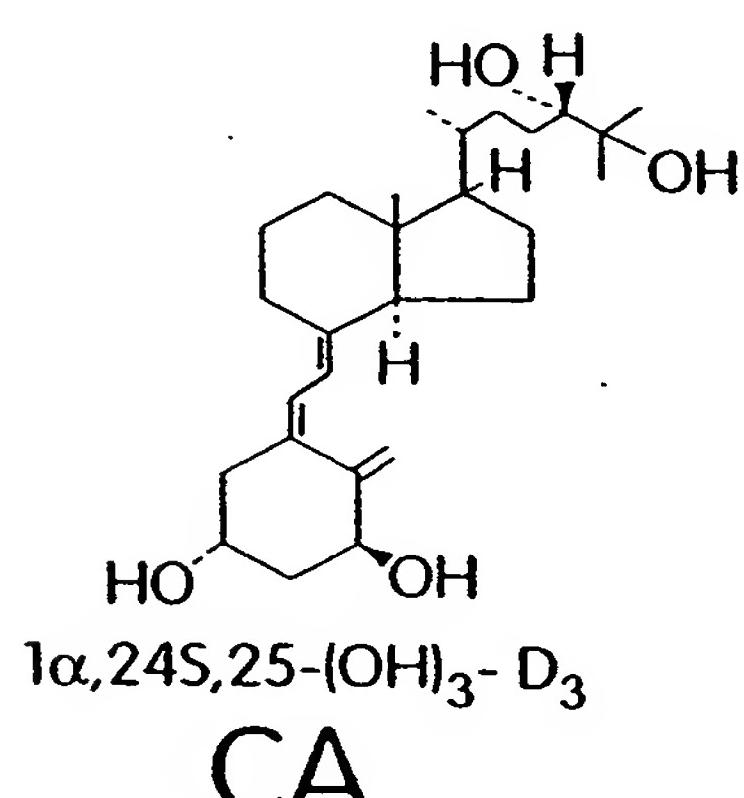
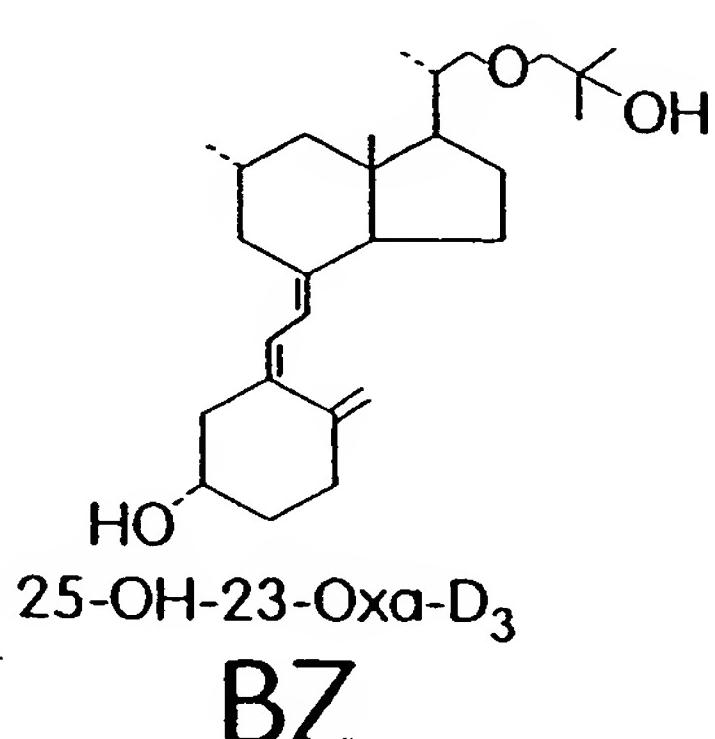
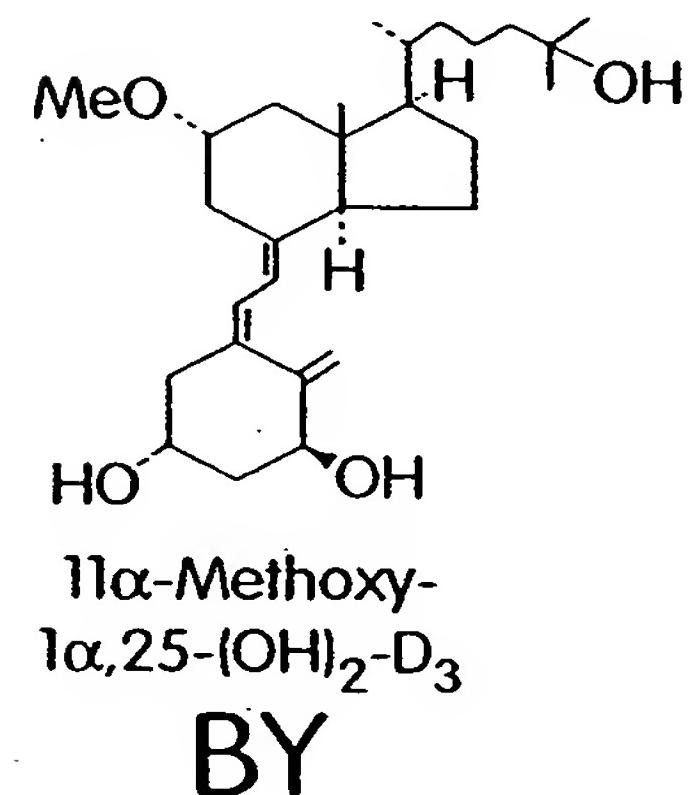
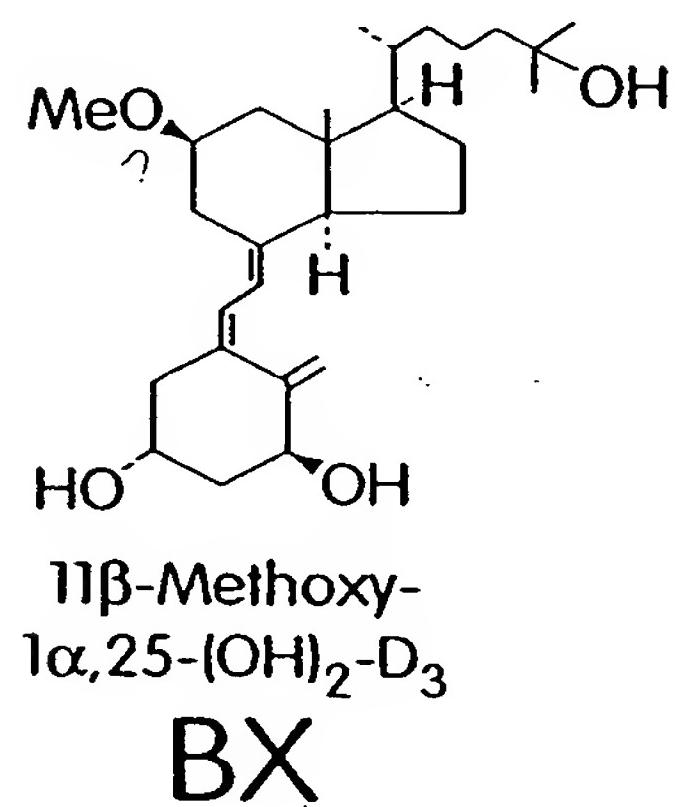
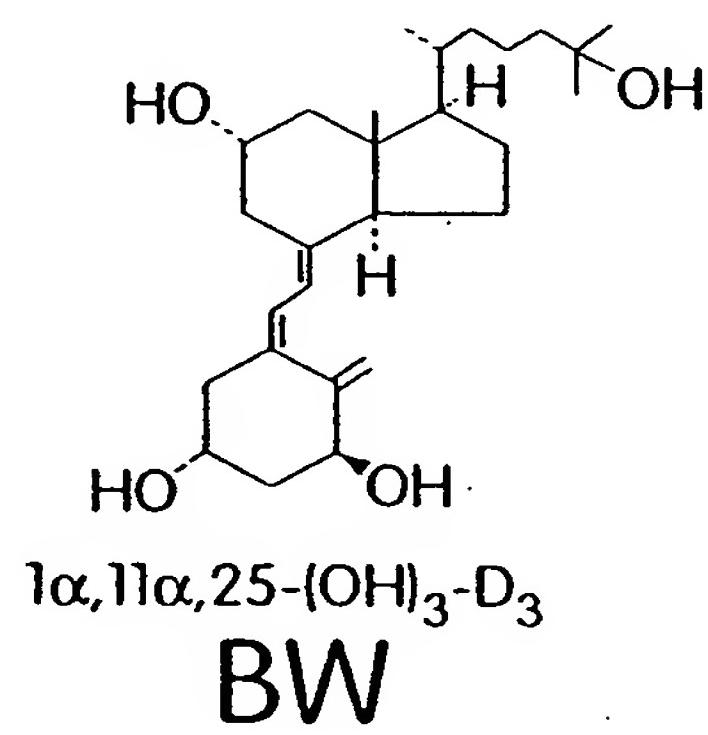
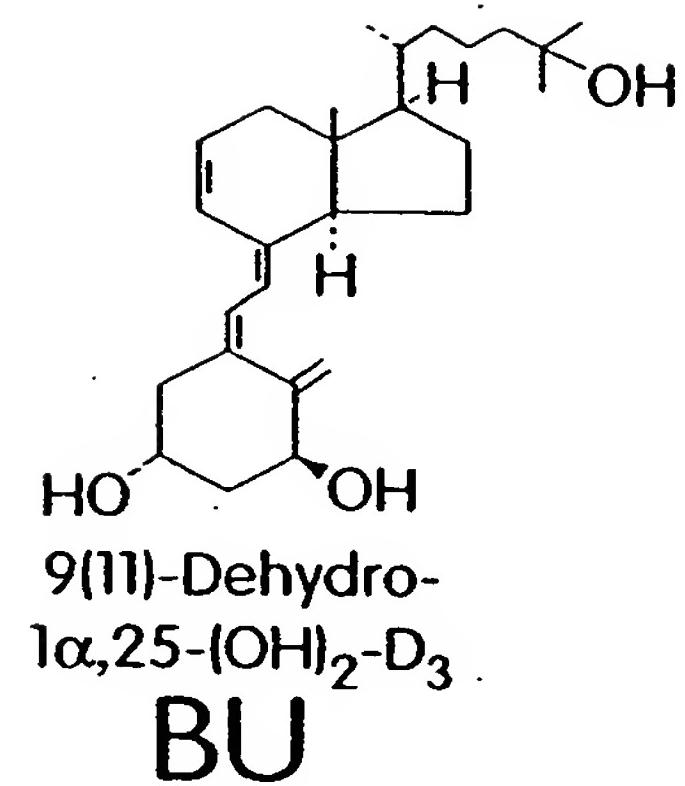
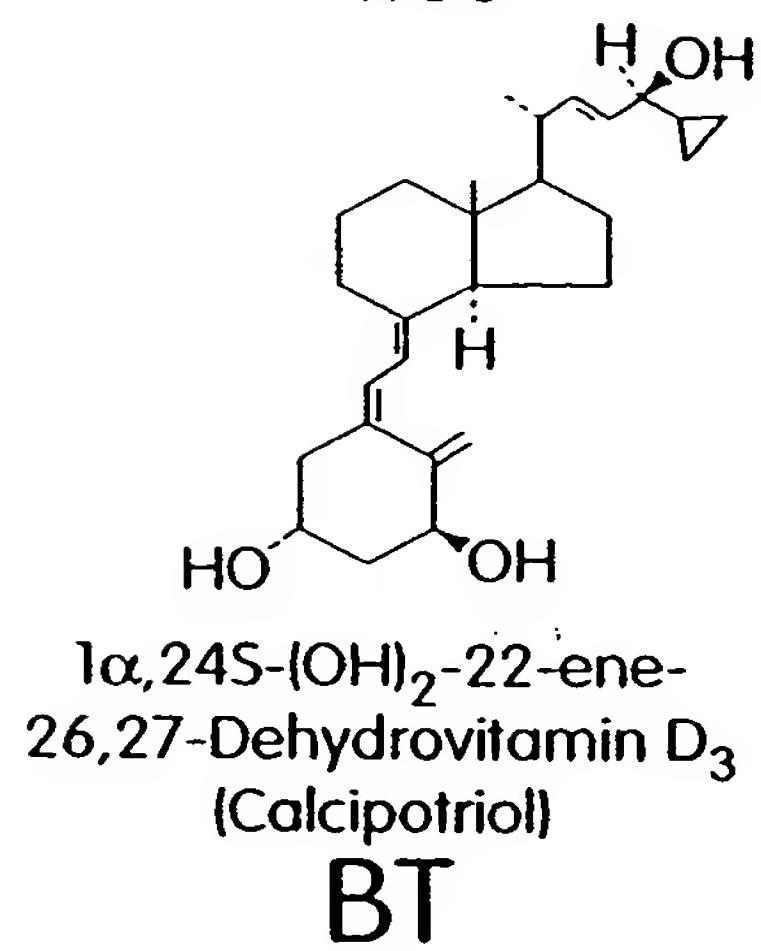
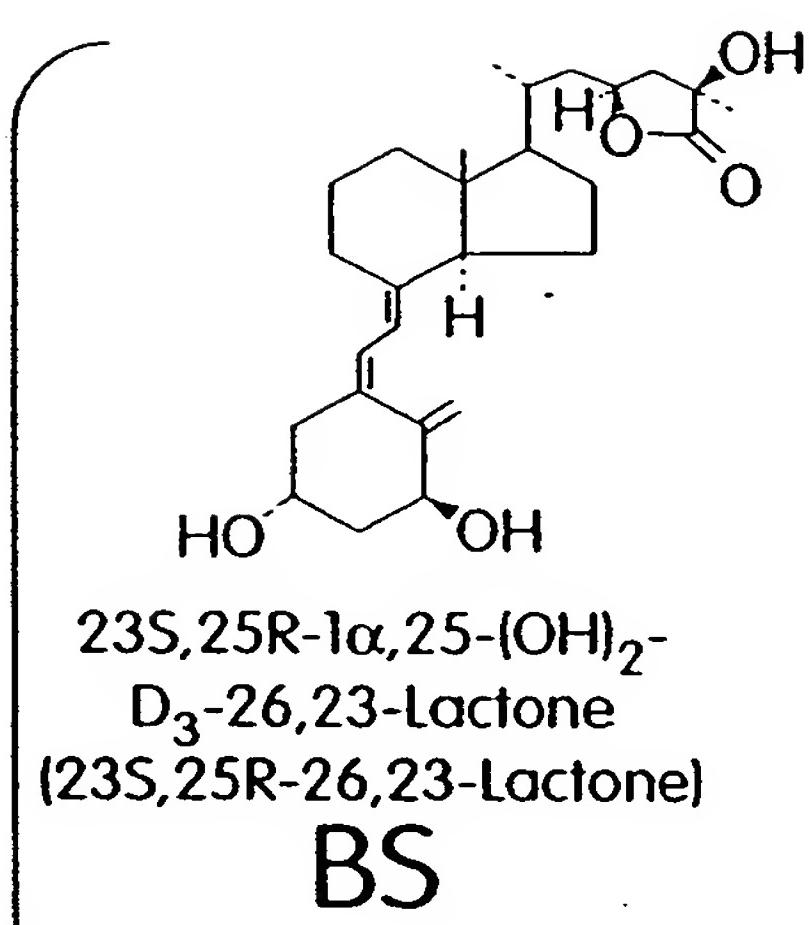


Fig. 1A-5

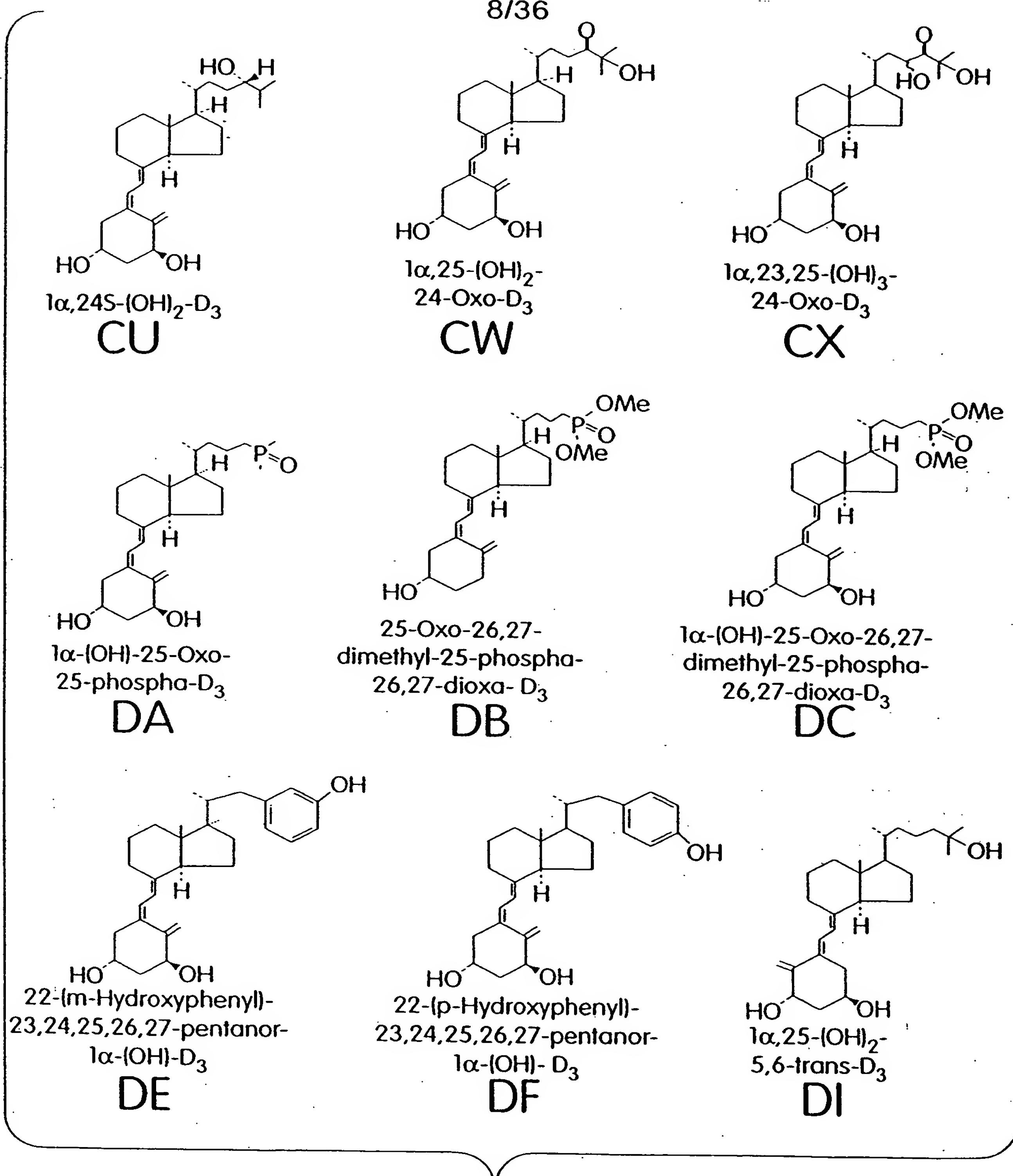
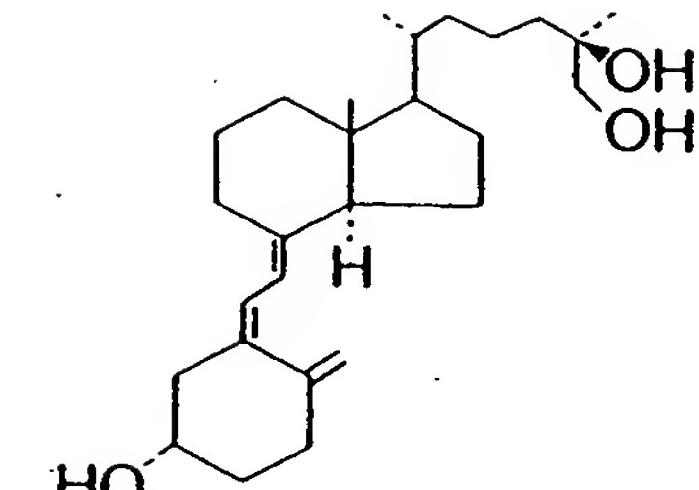
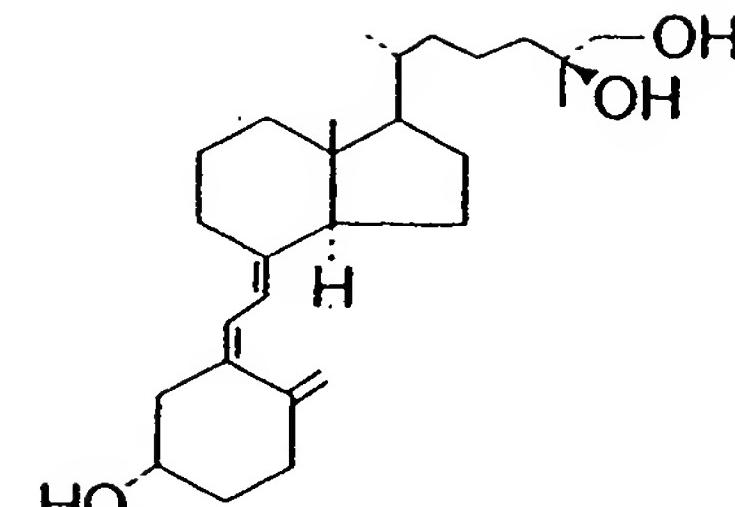


Fig. 1A-6

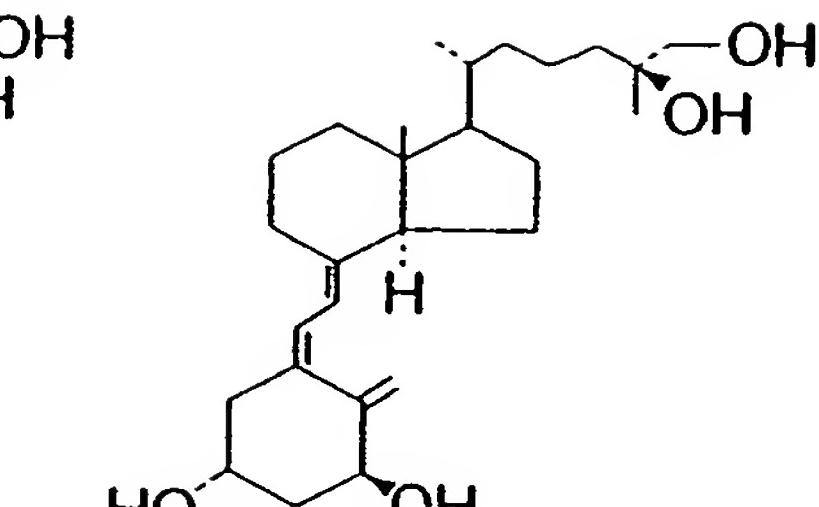
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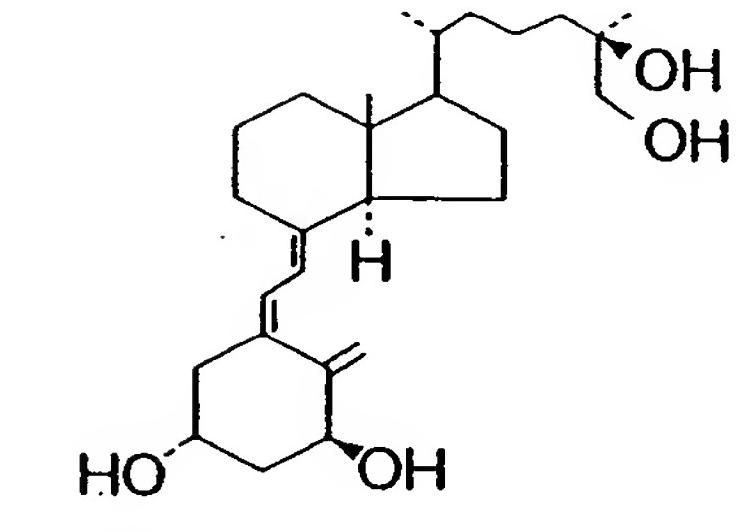
25R,26-(OH)₂-D₃
DJ



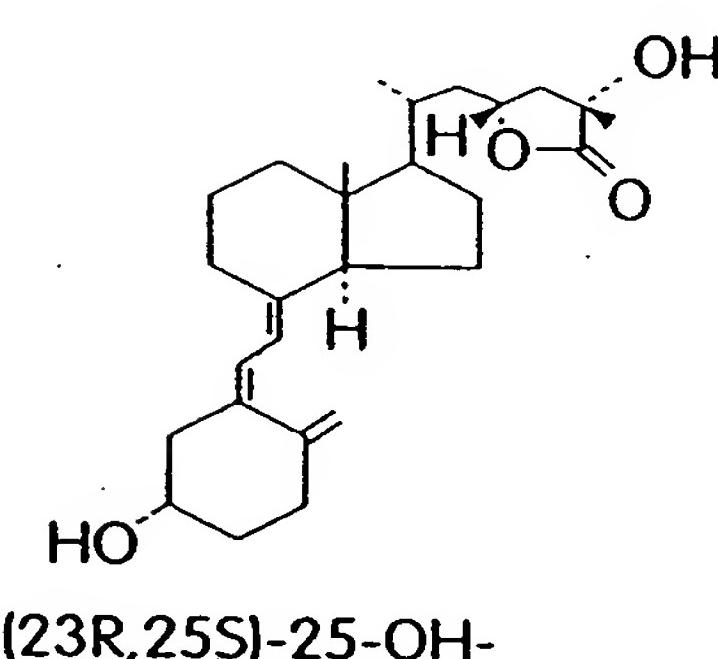
25S,26-(OH)₂-D₃
DK



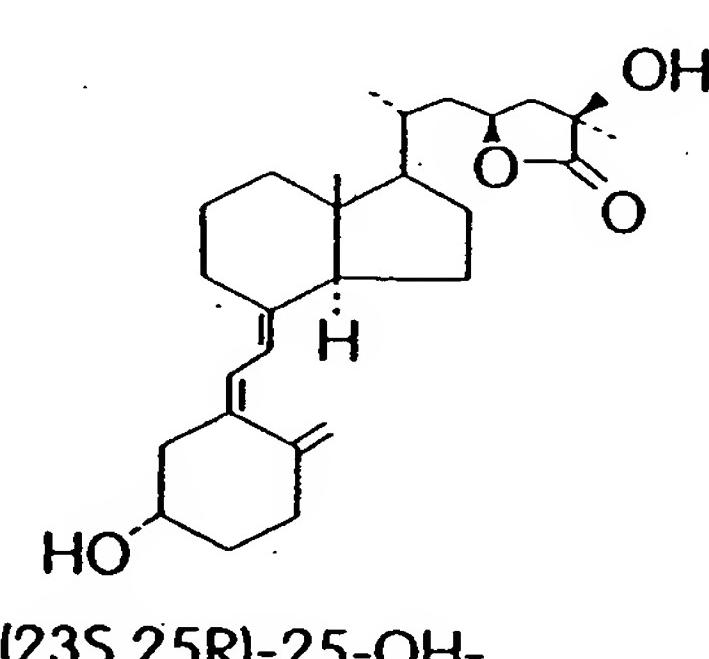
1 α ,25S,26-(OH)₃-D₃
DM



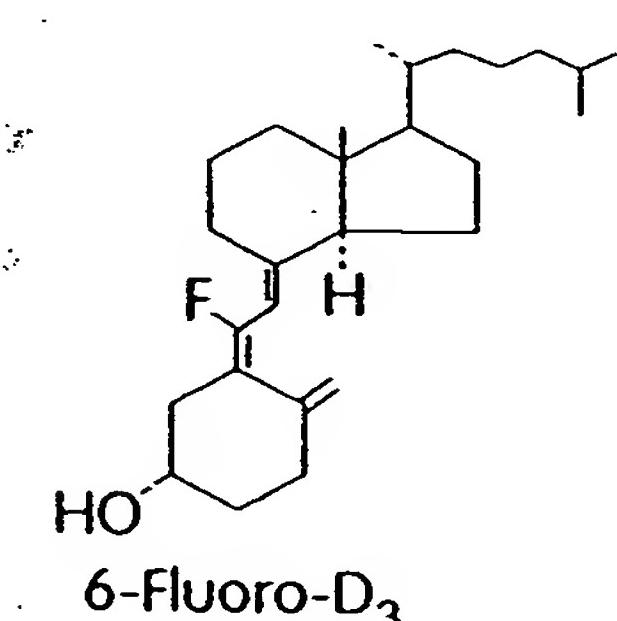
1 α ,25R,26-(OH)₃-D₃
DN



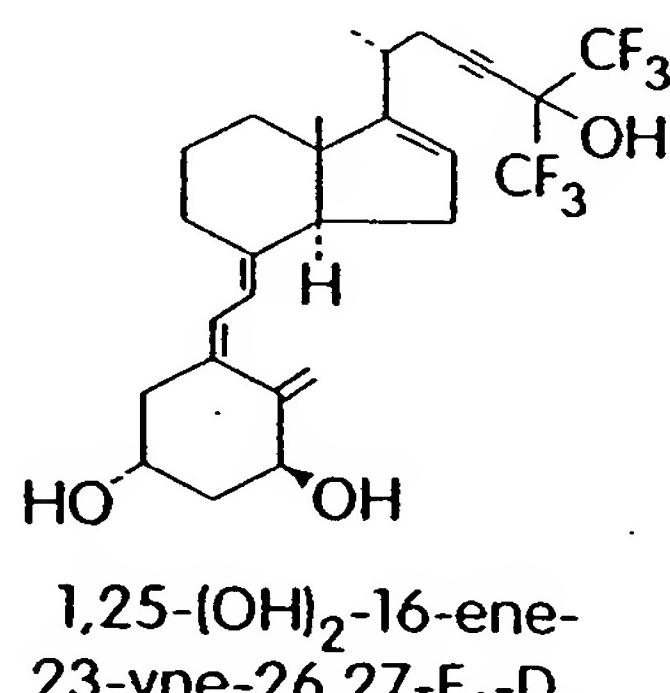
(23R,25S)-25-OH-
D₃-26,23-Lactone
EC



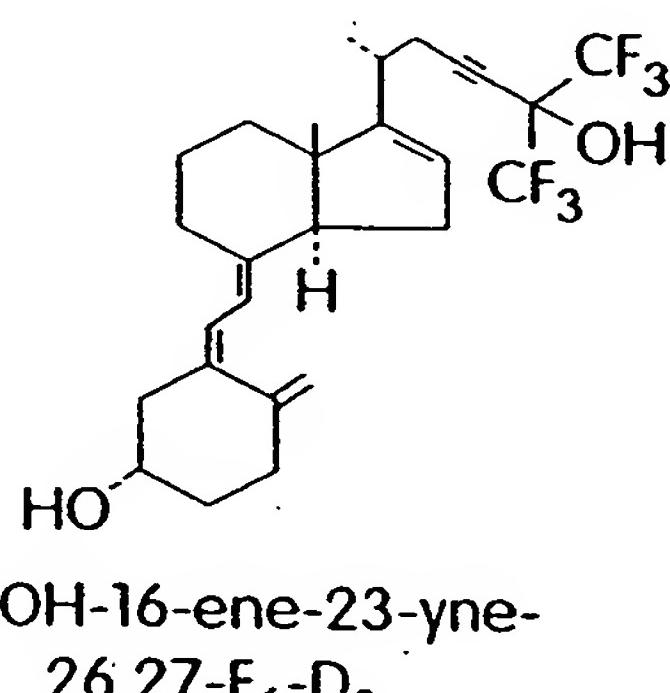
(23S,25R)-25-OH-
D₃-26,23-Lactone
ED



6-Fluoro-D₃
EM



1,25-(OH)₂-16-ene-
23-yne-26,27-F₆-D₃
EO



25-OH-16-ene-23-yne-
26,27-F₆-D₃
EP

Fig. 1A-7

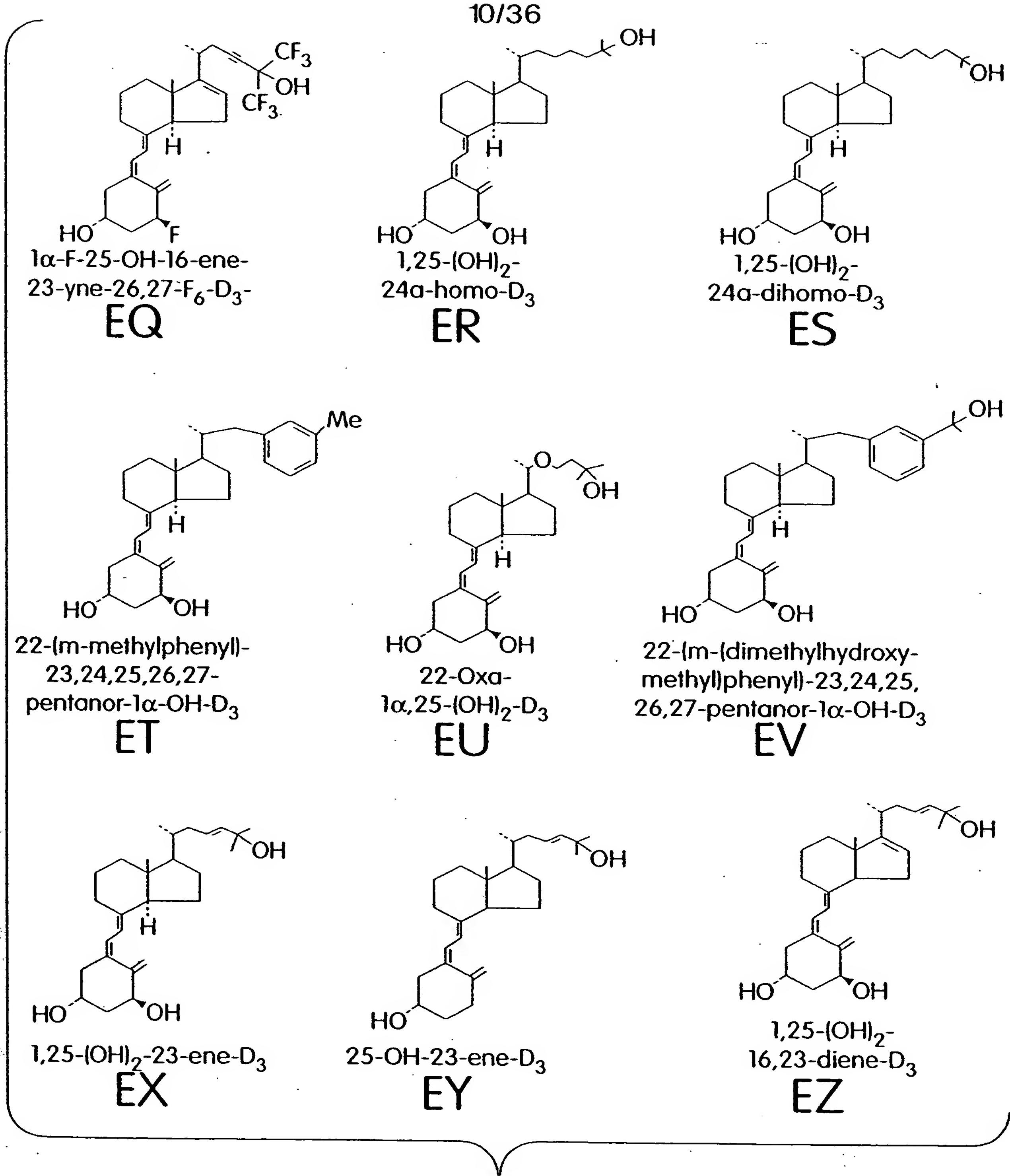
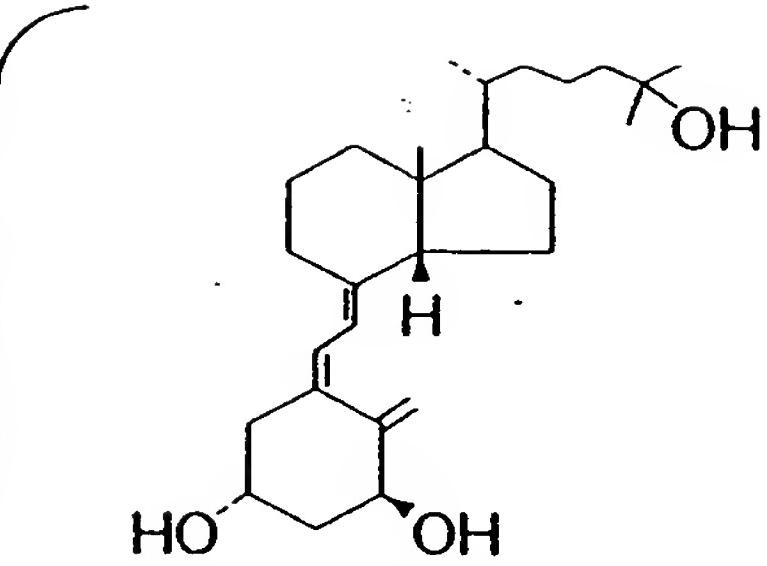


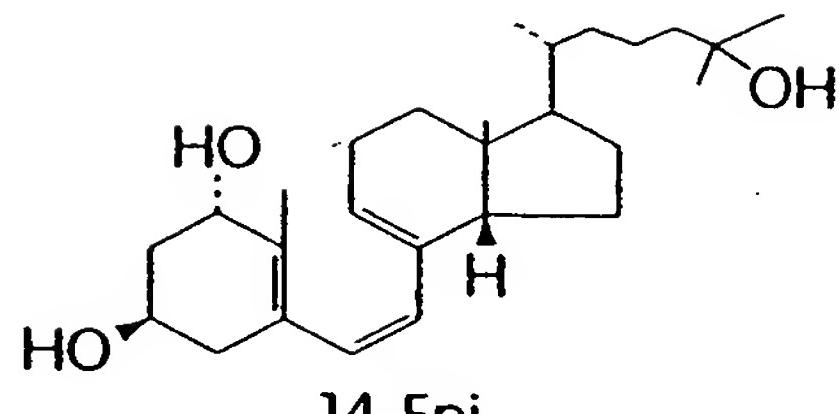
Fig. 1A-8

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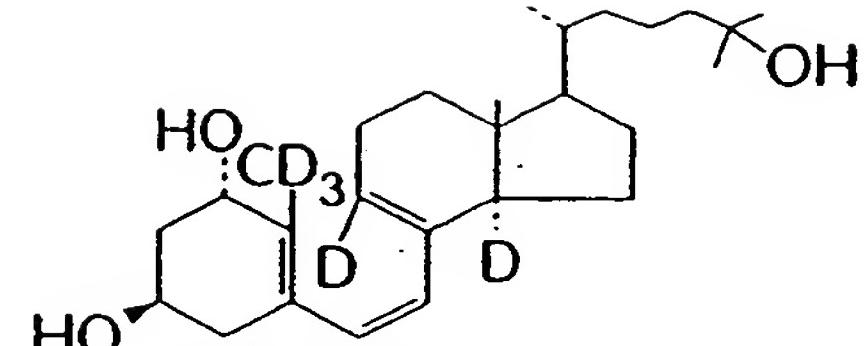
14-Epi-1,25-(OH)₂-D₃

GE



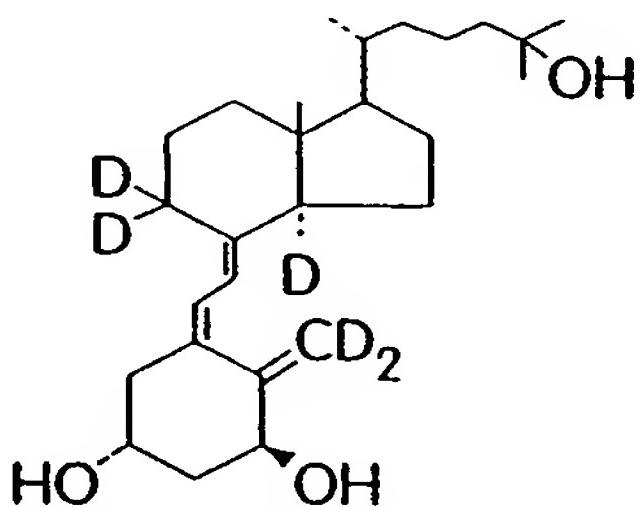
14-Epi-
1,25-(OH)₂-Pre-D₃

GF



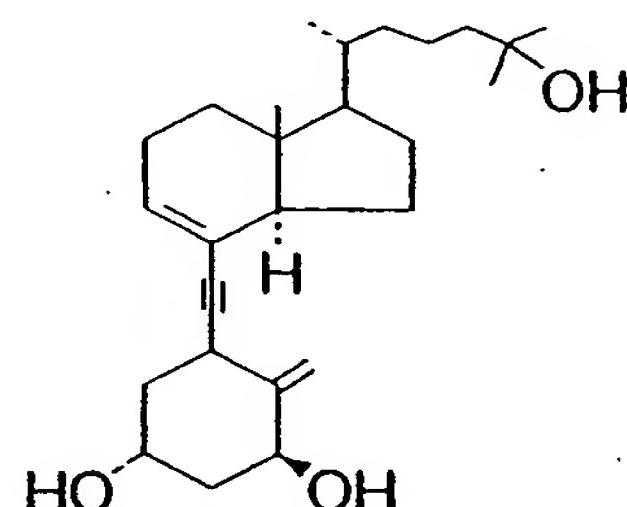
1 α ,25-(OH)₂-pre-D₃-
9,14,19,19,19,-d₅

HF



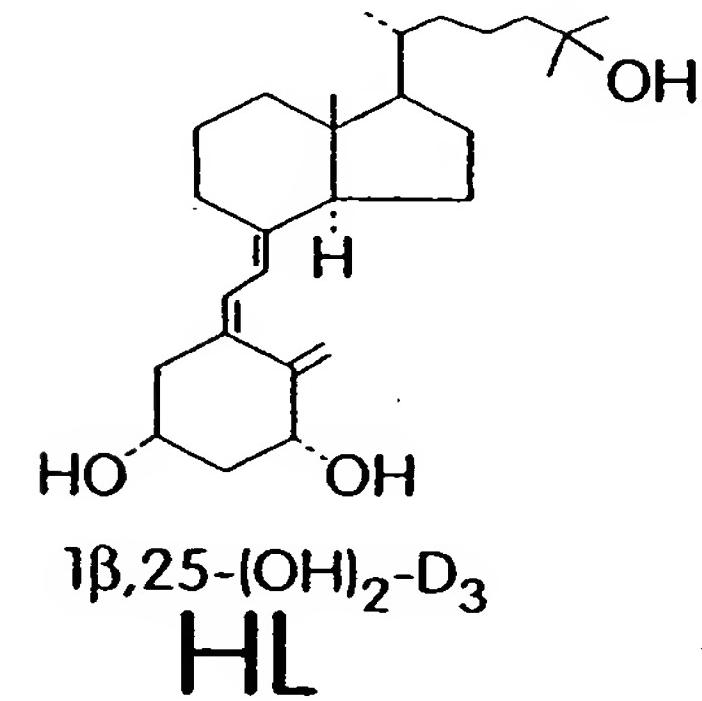
1 α ,25-(OH)₂-D₃-
9,9,14,19,19,-d₅

HG



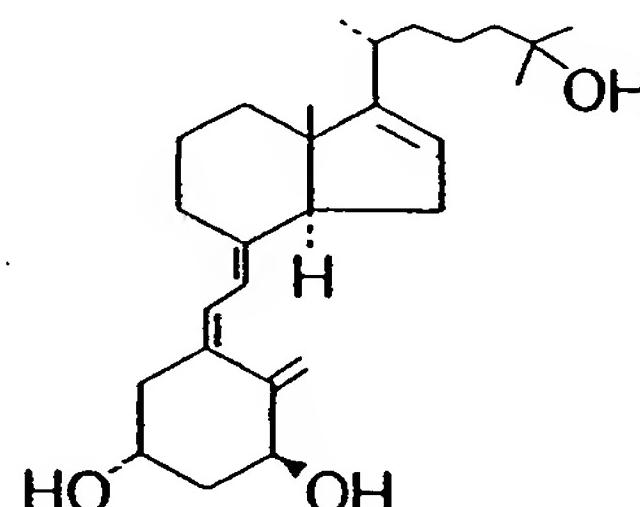
1 α ,25-(OH)₂-
6,7-Dehydro-pre-D₃

HI



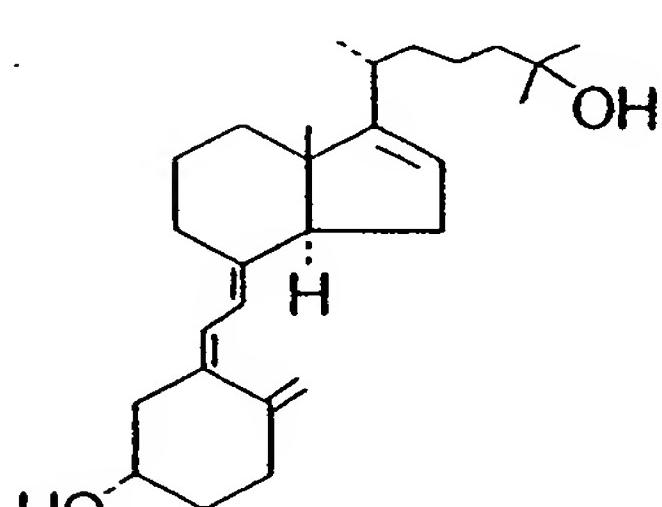
1 β ,25-(OH)₂-D₃

HL



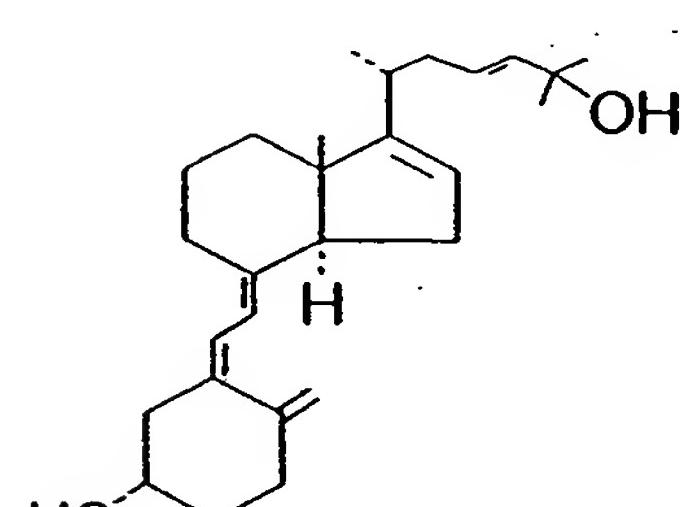
1,25-(OH)₂-16-Ene-D₃

HM



25-OH-16-Ene-D₃

HN

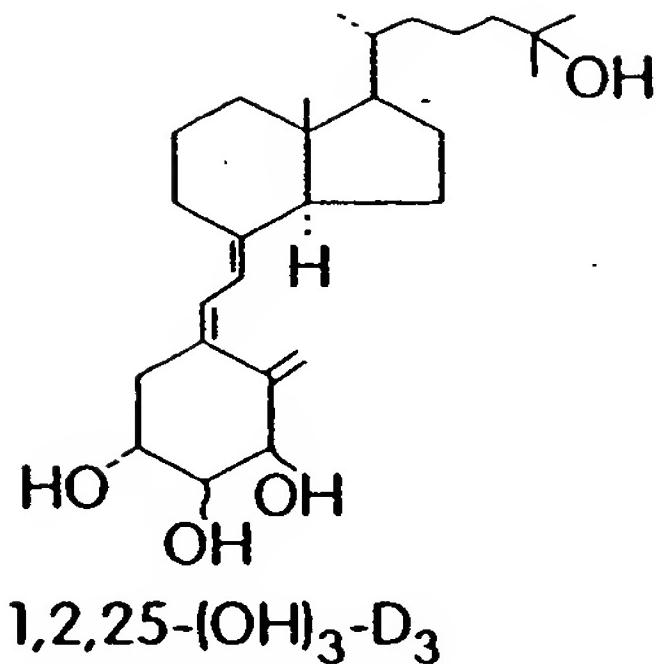


25-OH-16,23-Diene-D₃

HO

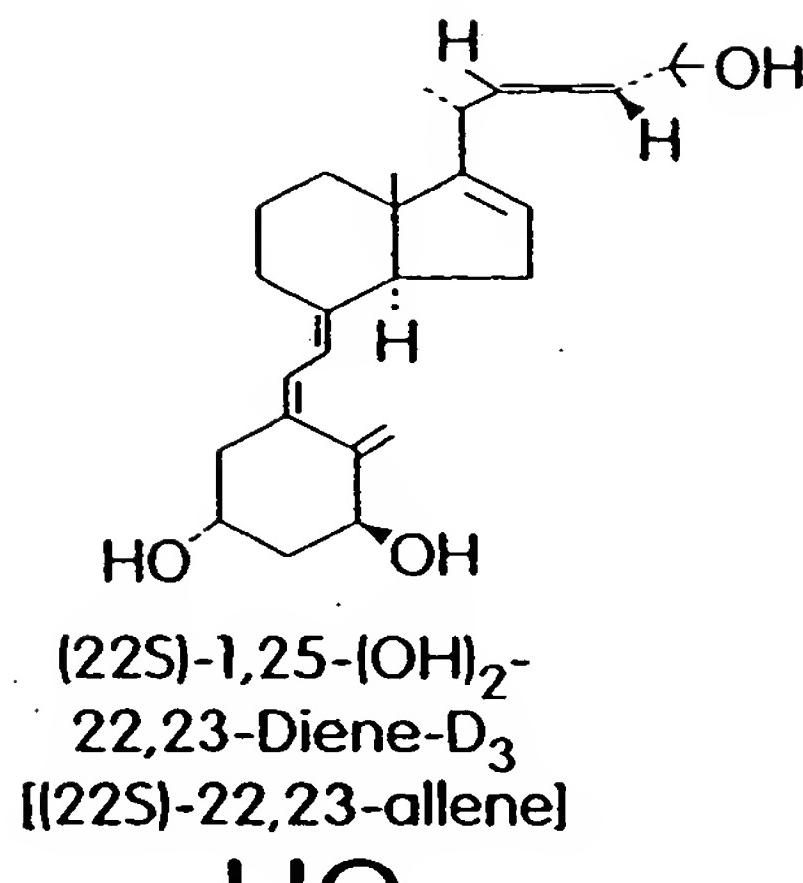
Fig. 1A-9

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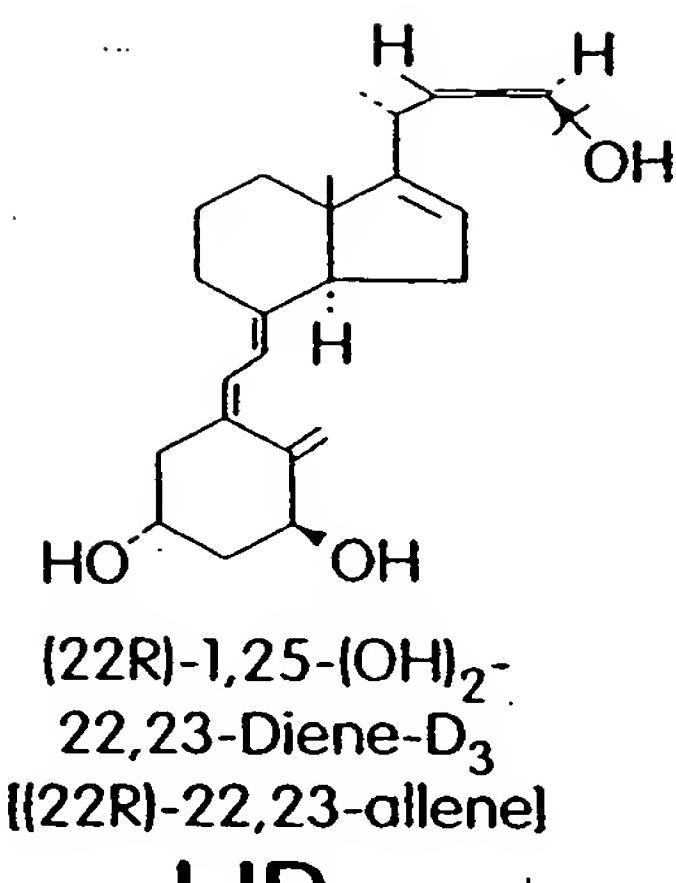
1,2,25-(OH)₃-D₃

HP



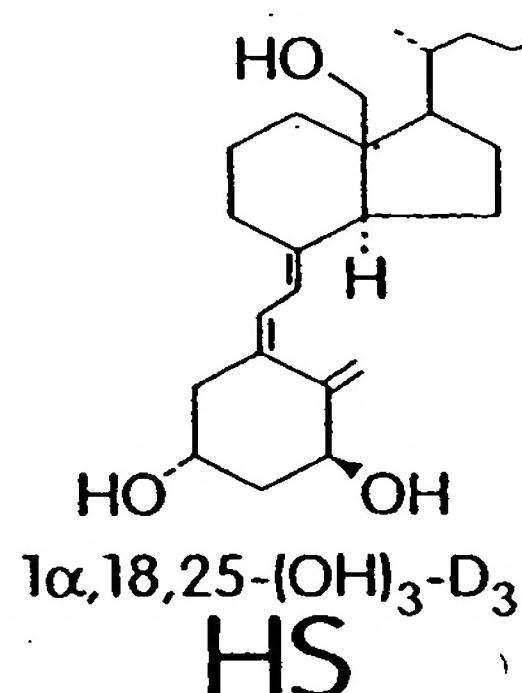
(22S)-1,25-(OH)₂-
22,23-Diene-D₃
[(22S)-22,23-allene]

HQ



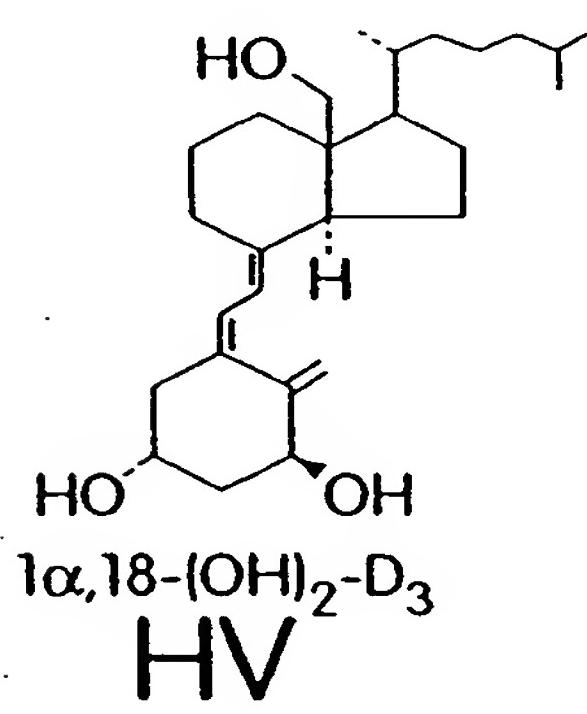
(22R)-1,25-(OH)₂-
22,23-Diene-D₃
[(22R)-22,23-allene]

HR



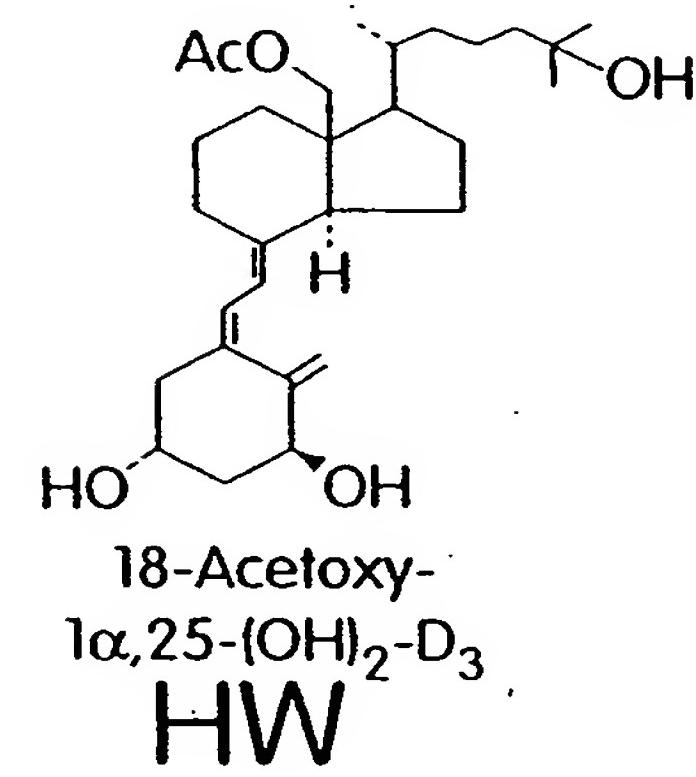
1 α ,18,25-(OH)₃-D₃

HS



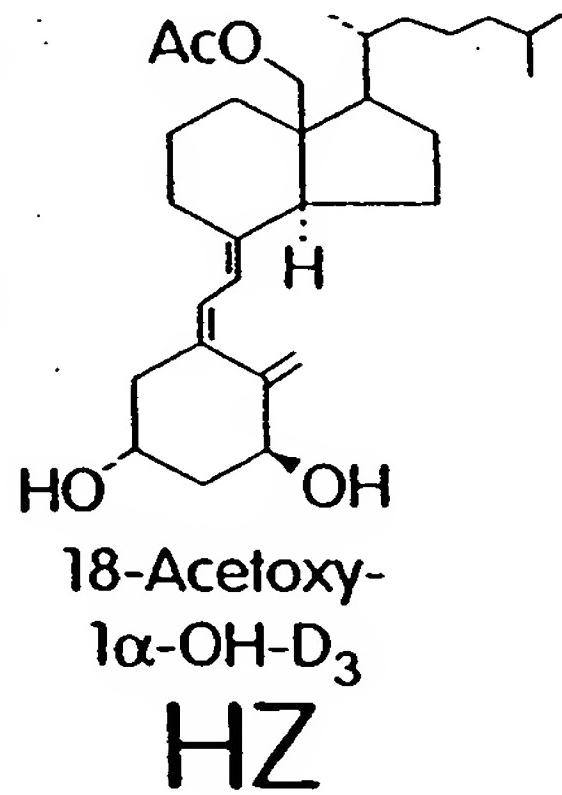
1 α ,18-(OH)₂-D₃

HV



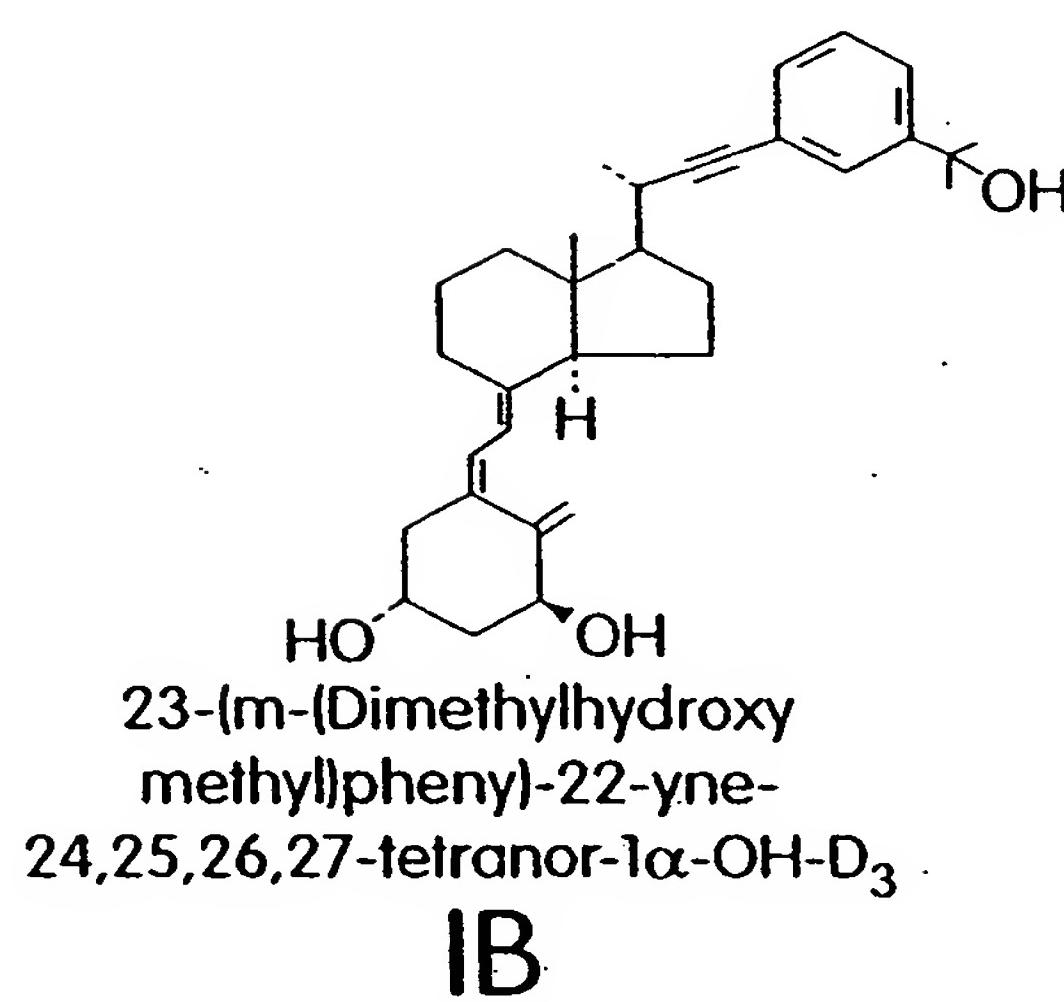
18-Acetoxy-
1 α ,25-(OH)₂-D₃

HW



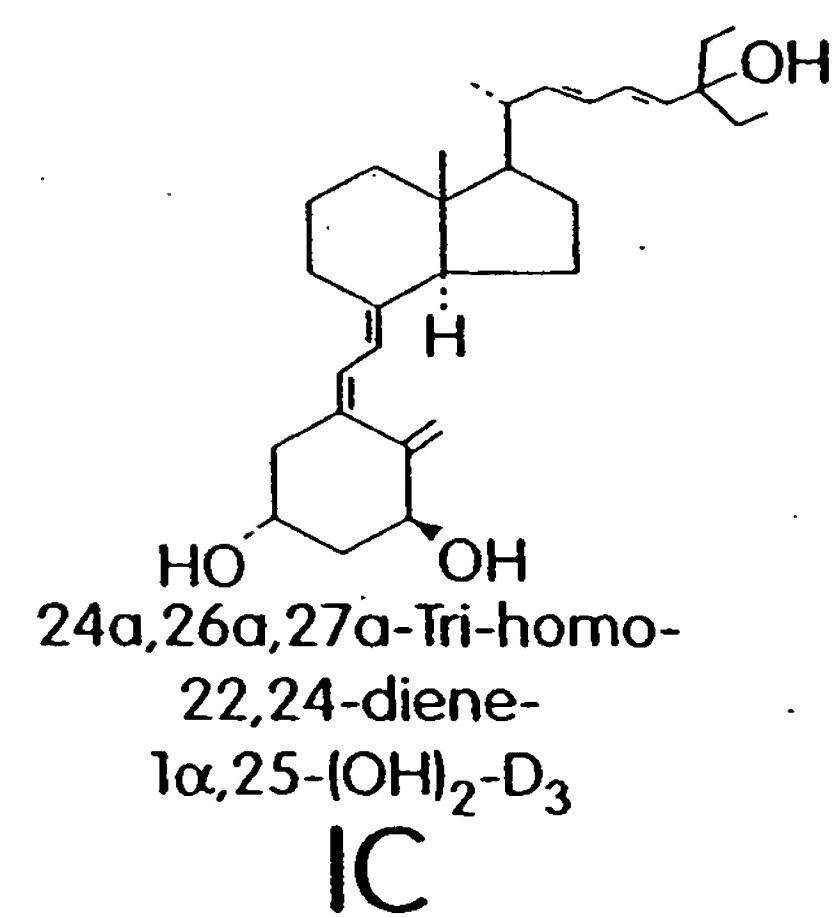
18-Acetoxy-
1 α -OH-D₃

HZ



23-(m-(Dimethylhydroxy
methyl)phenyl)-22-yne-
24,25,26,27-tetranor-1 α -OH-D₃

IB

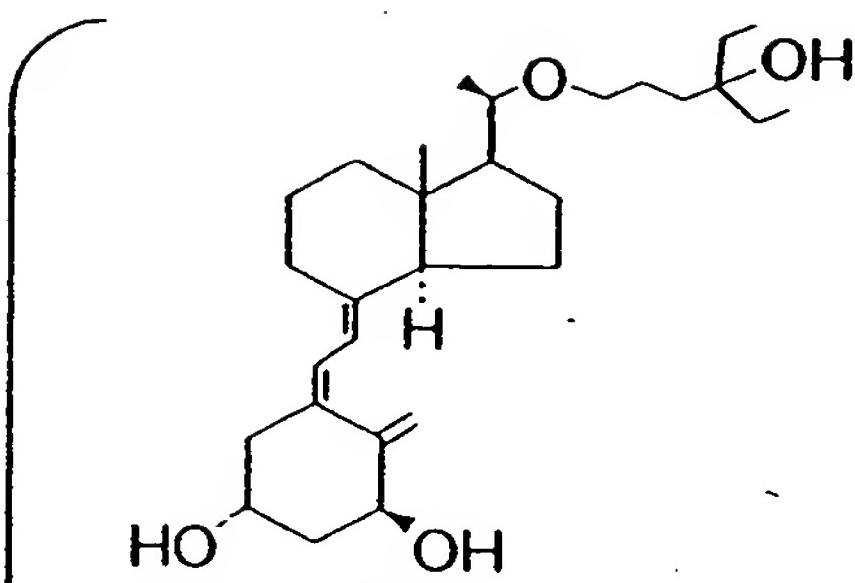


24a,26a,27a-Tri-homo-
22,24-diene-
1 α ,25-(OH)₂-D₃

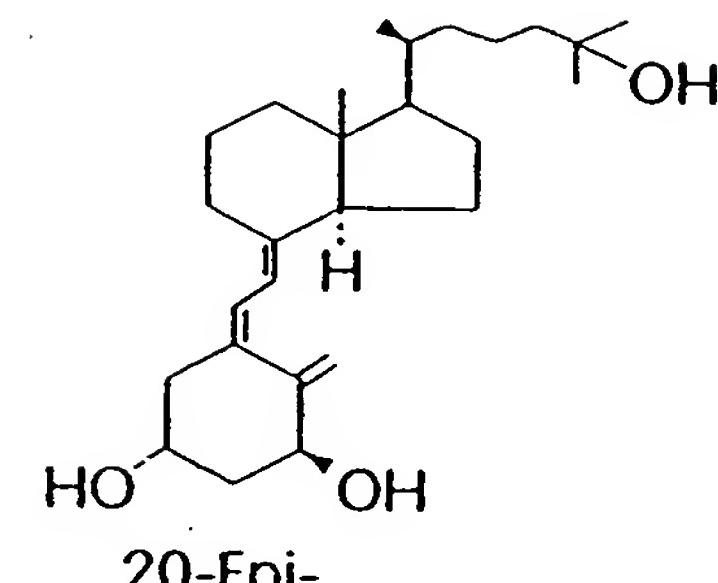
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Fig. 1A-10

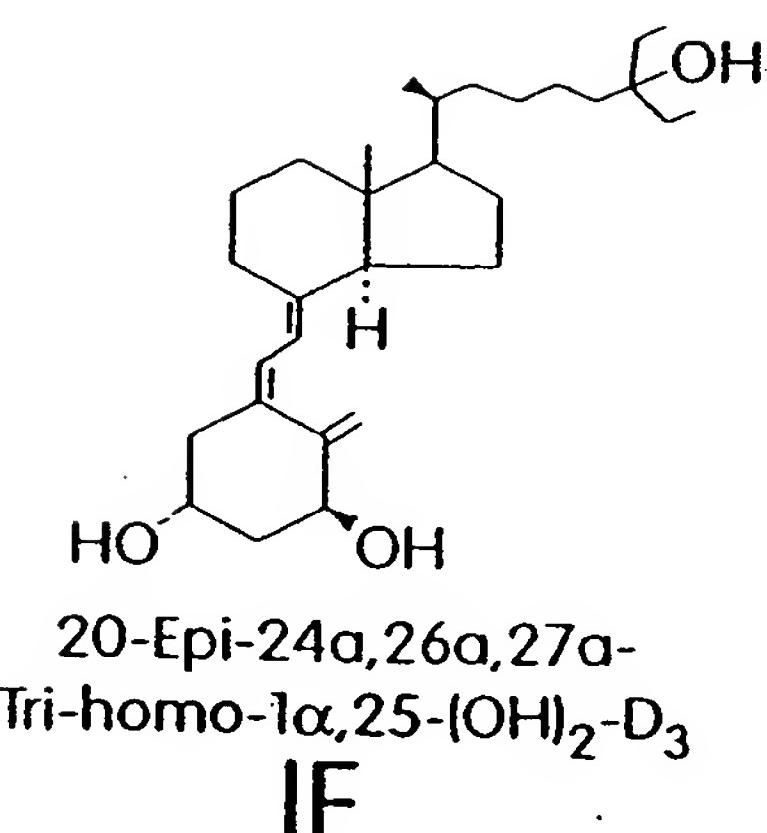
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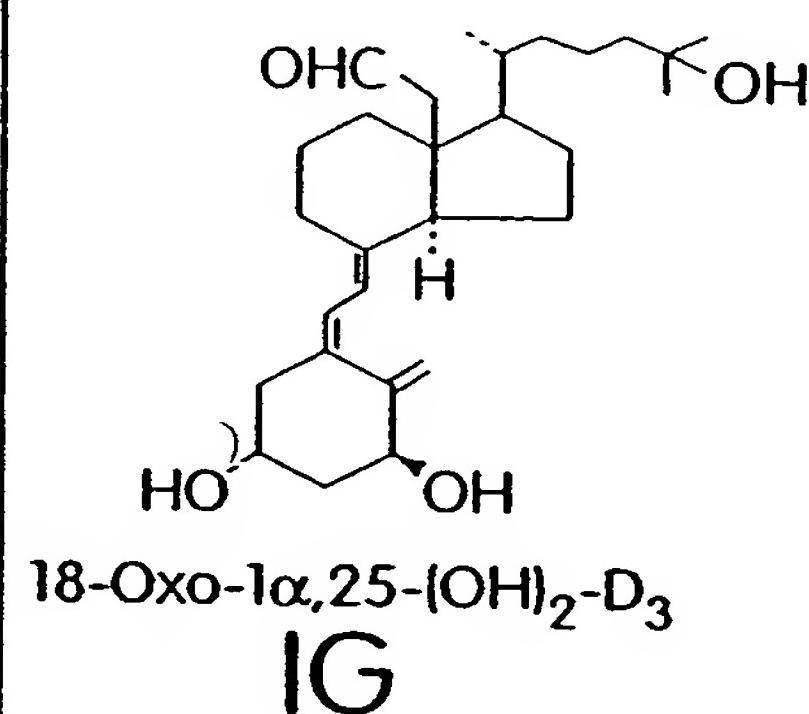
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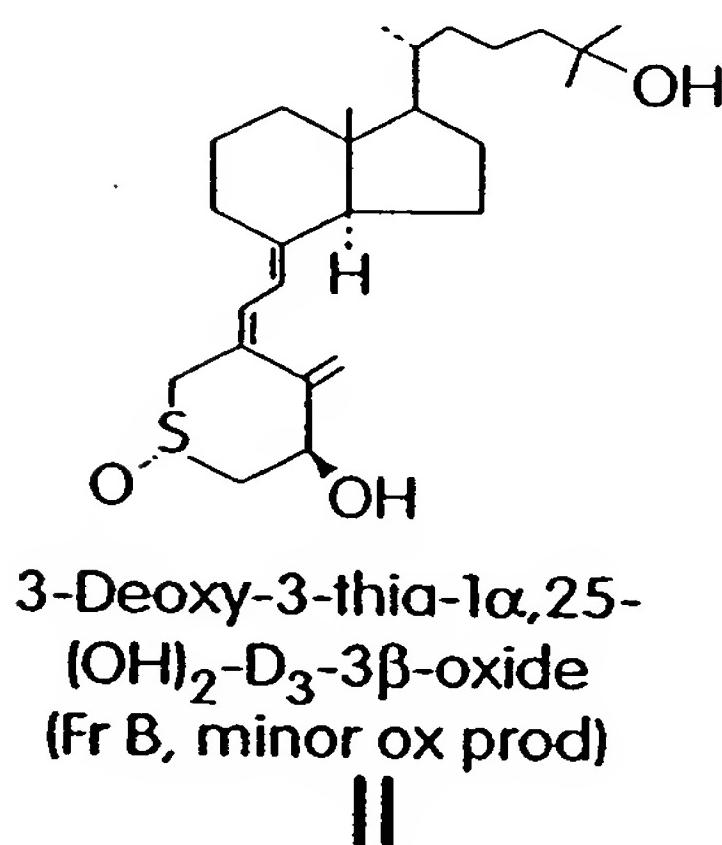
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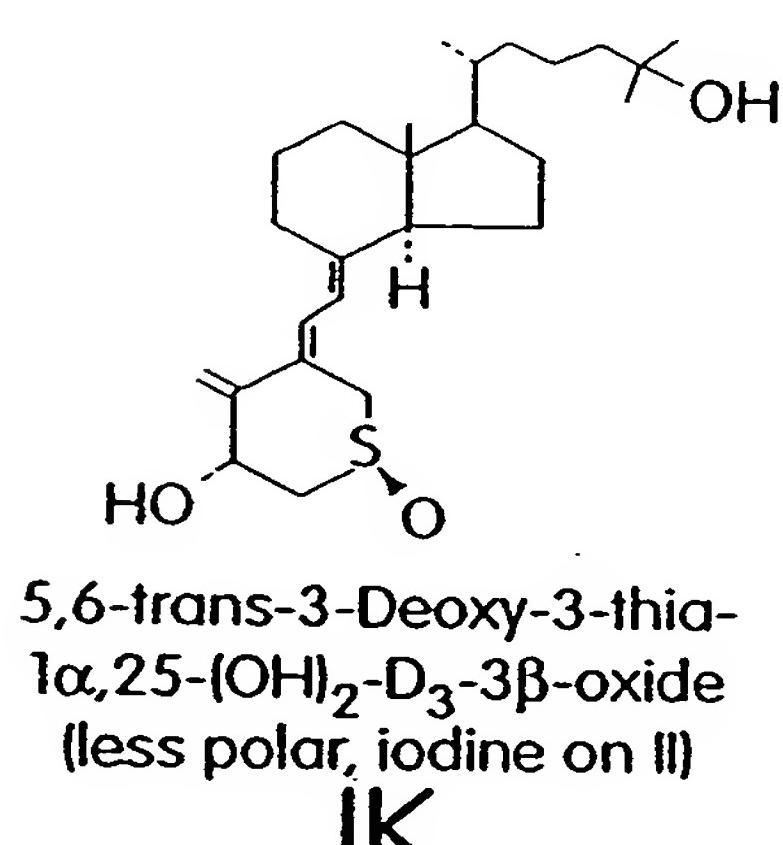
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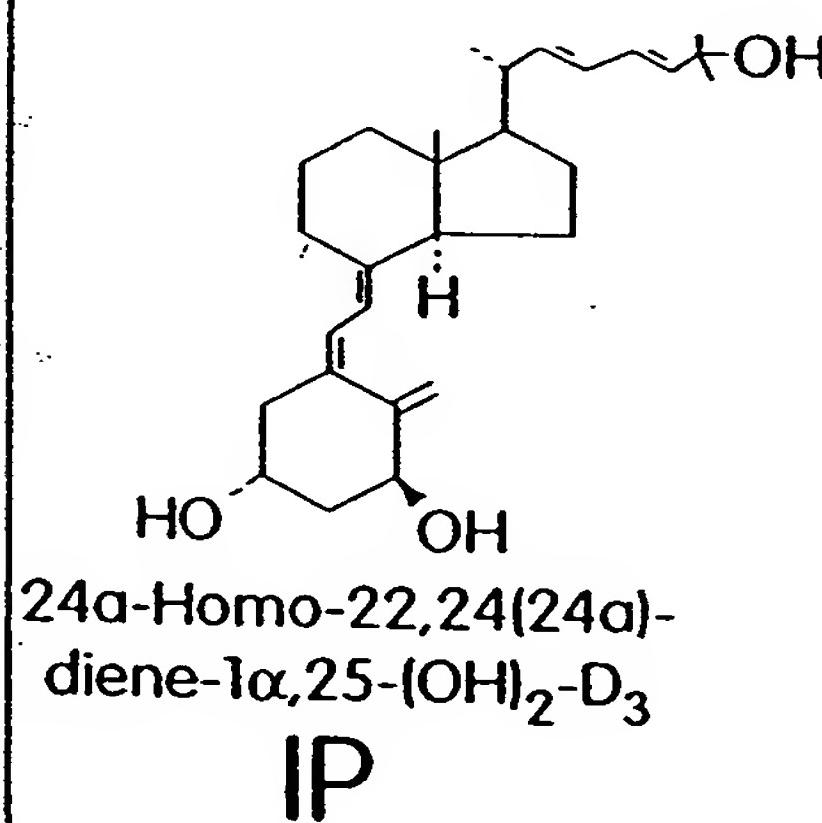
IG



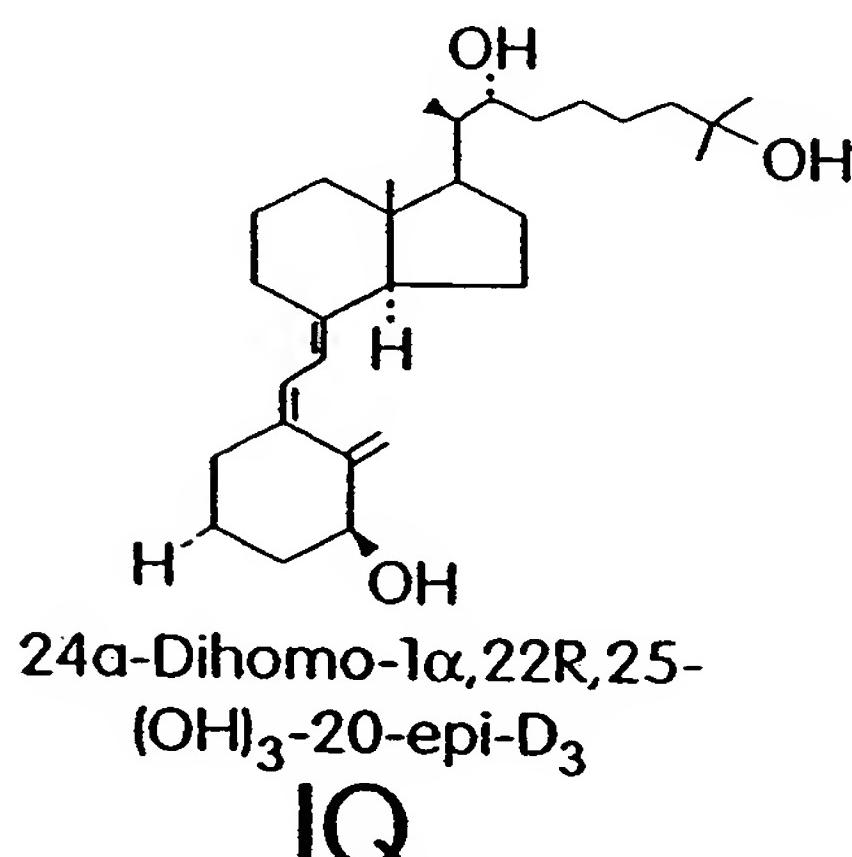
II



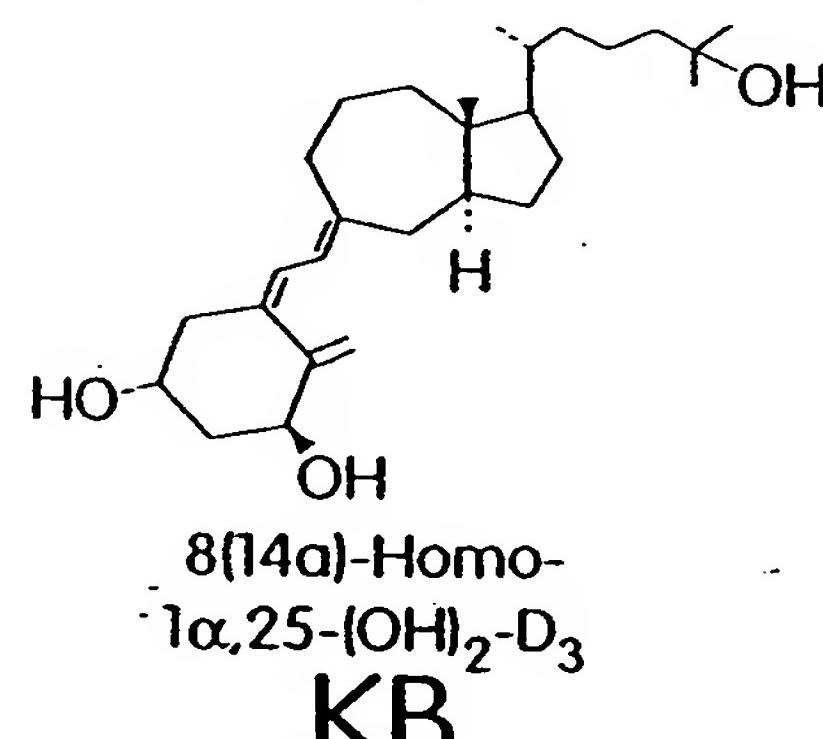
IK



IP



IQ



KB

Fig. 1A-11

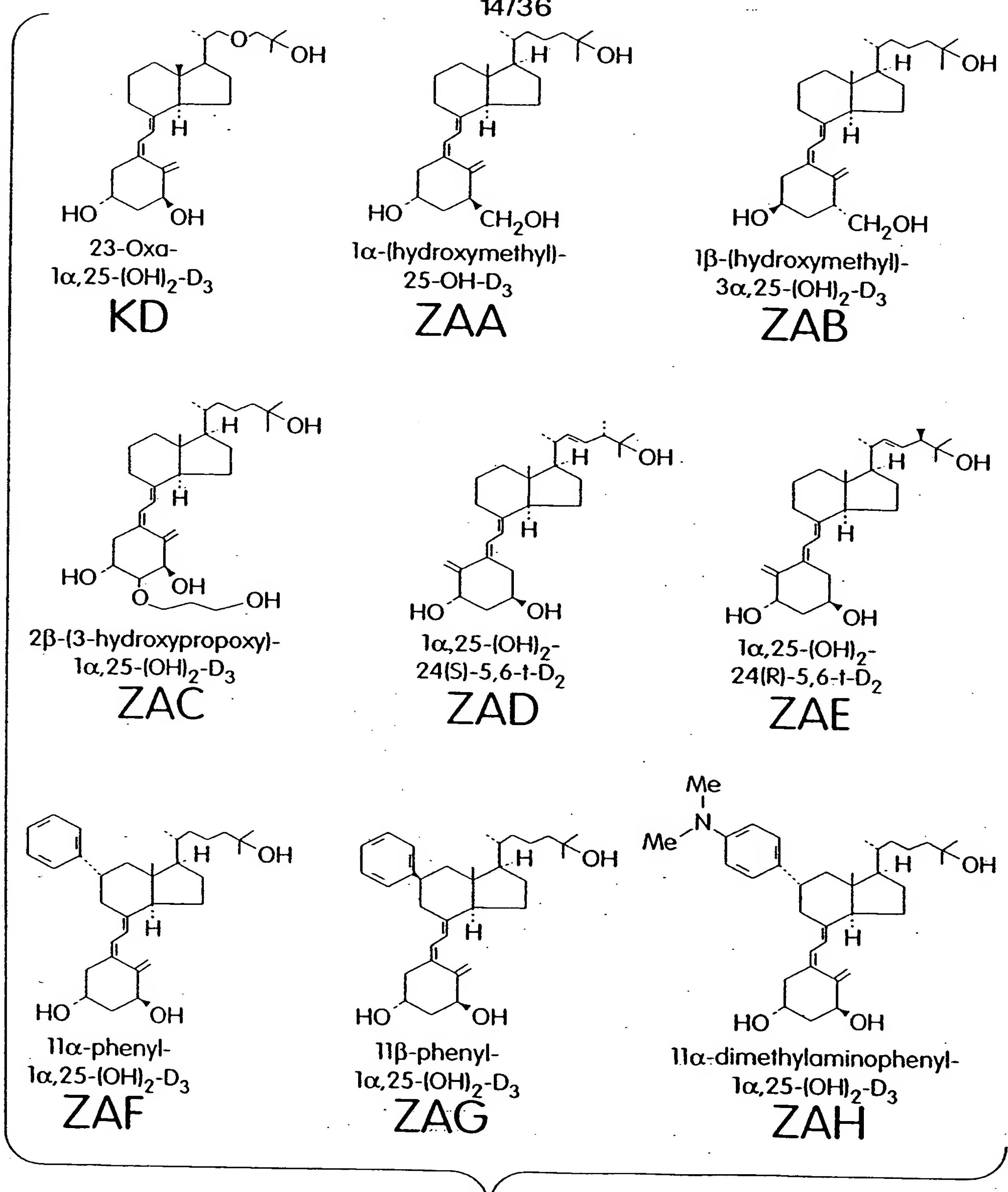


Fig. 1A-12

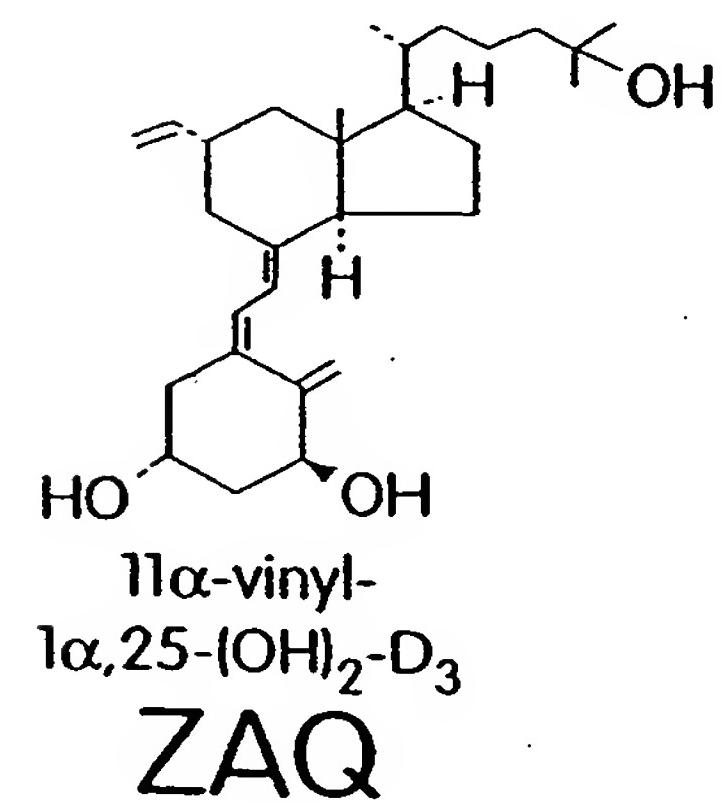
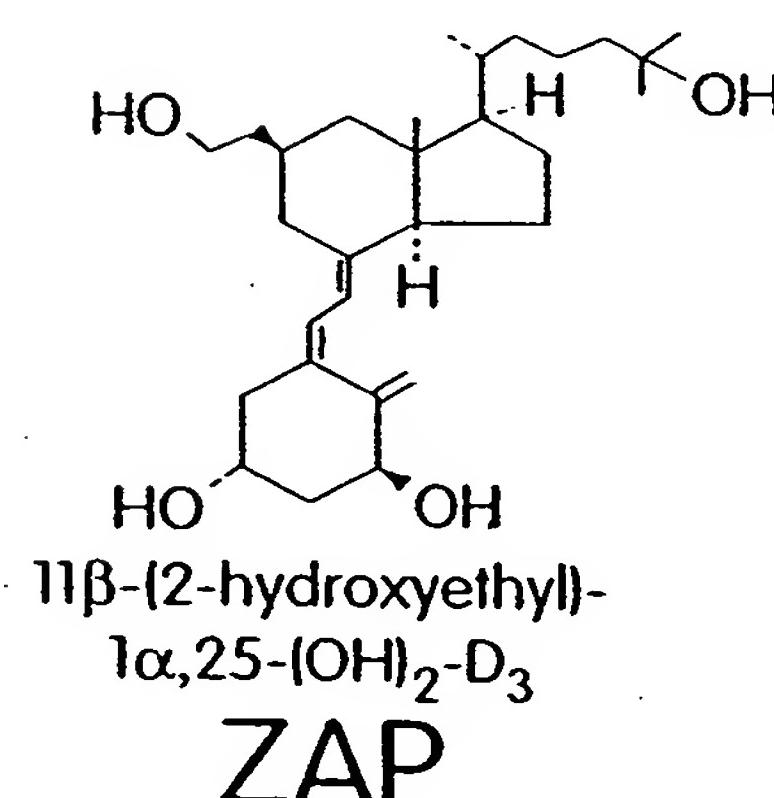
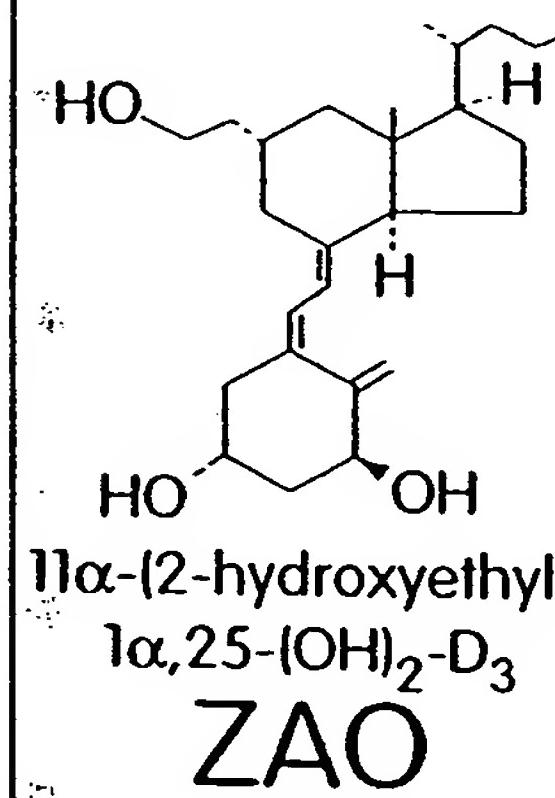
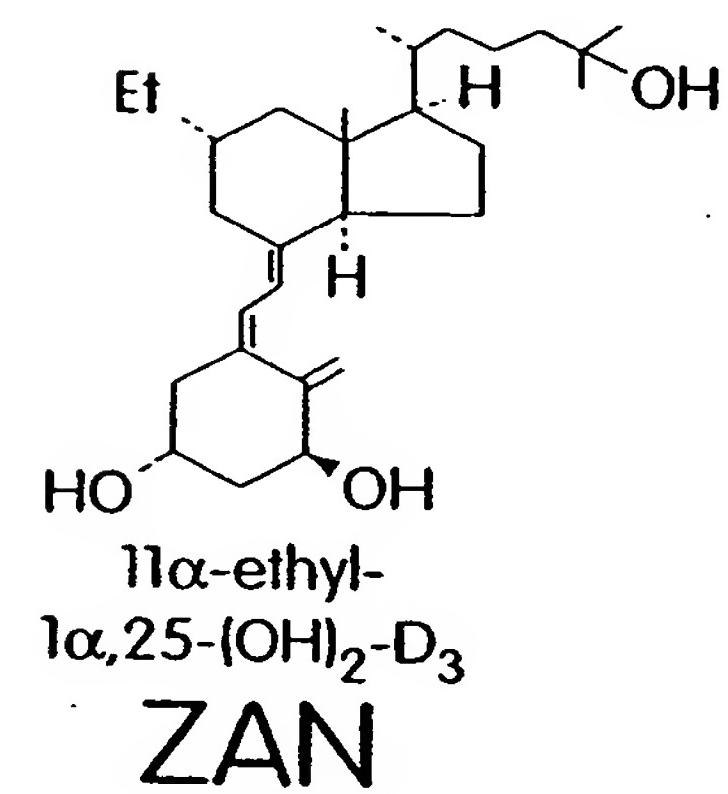
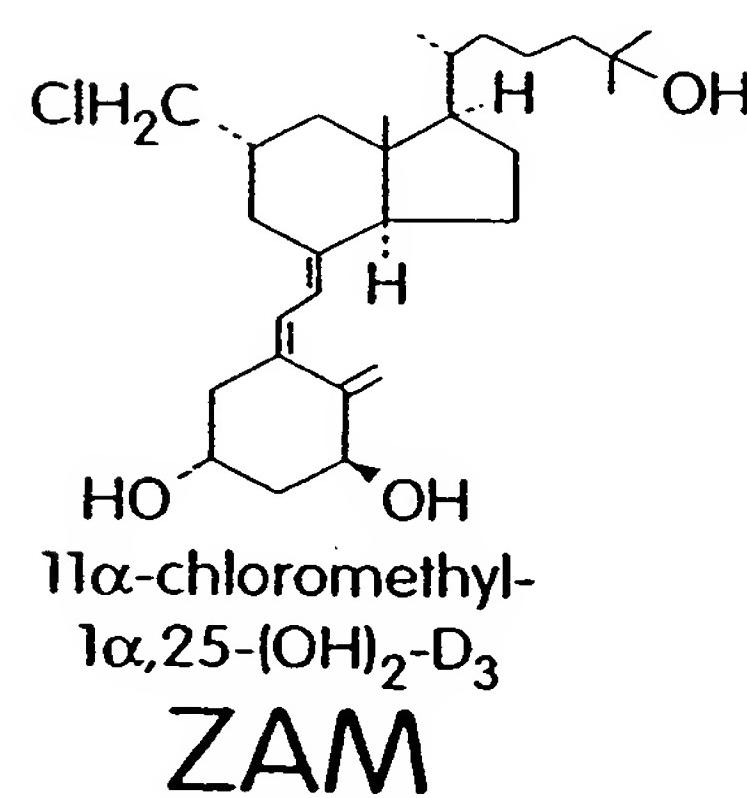
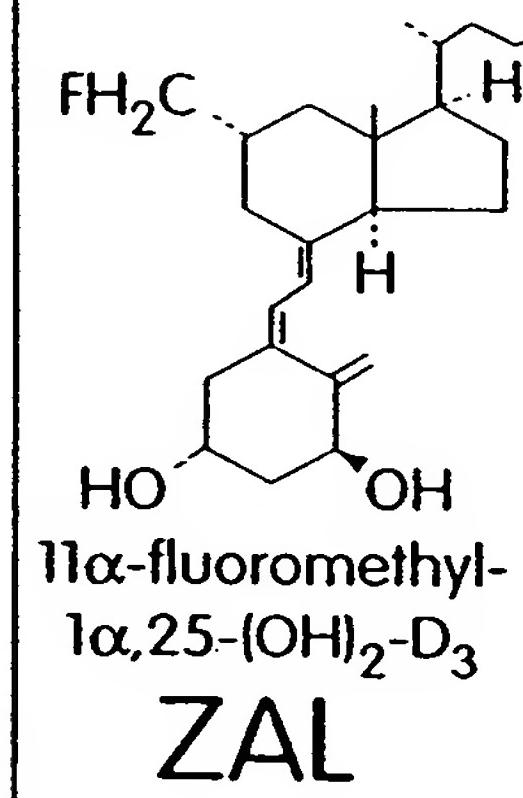
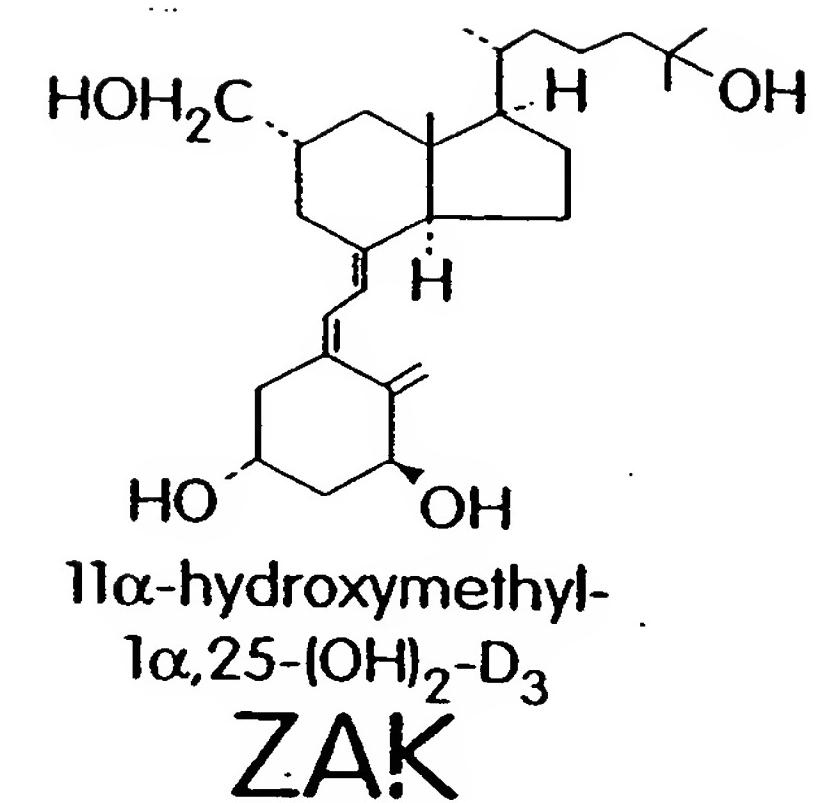
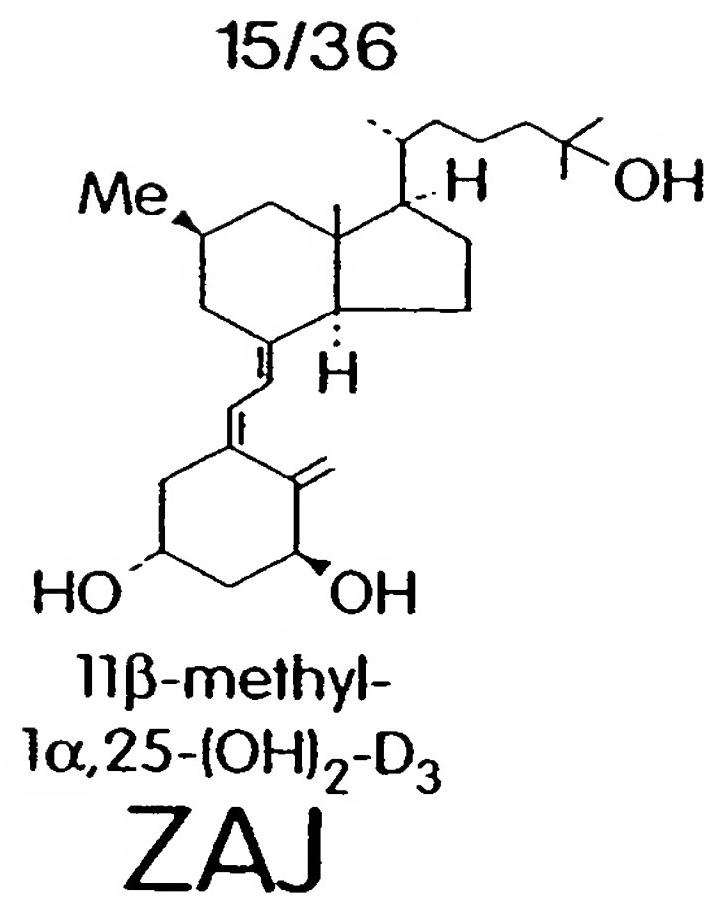
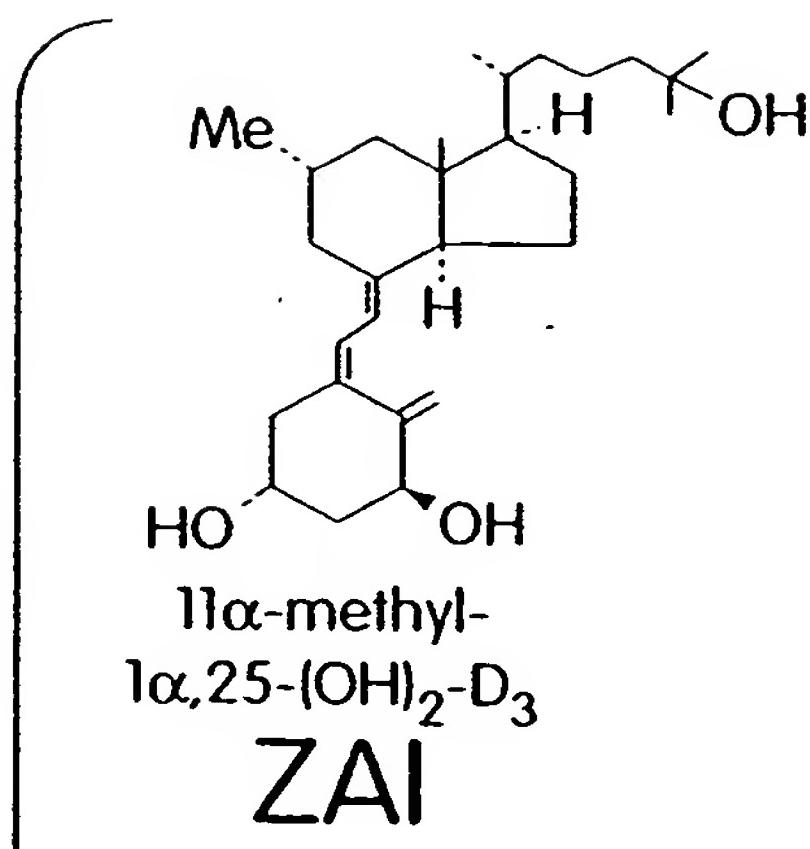


Fig. 1A-13

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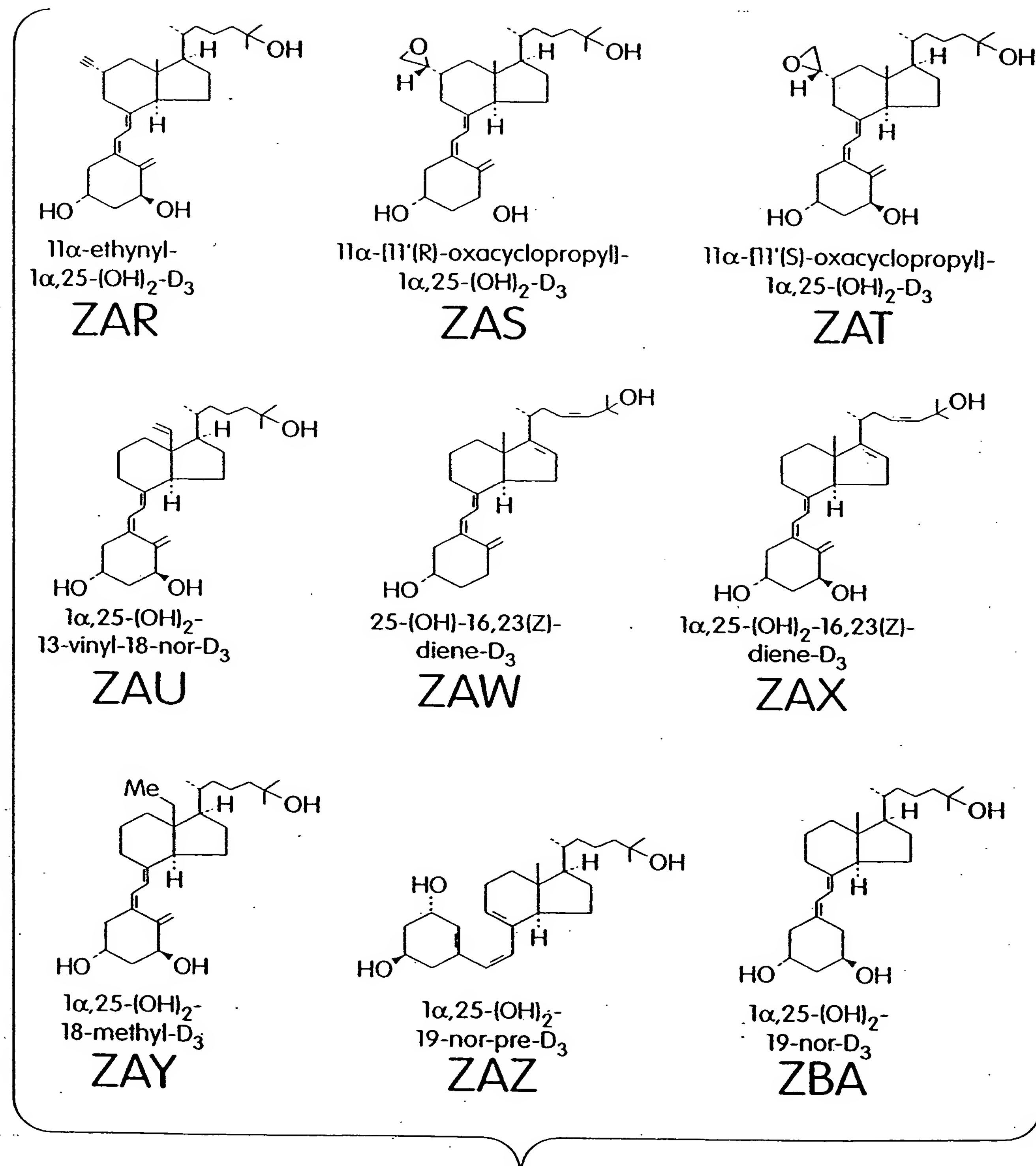
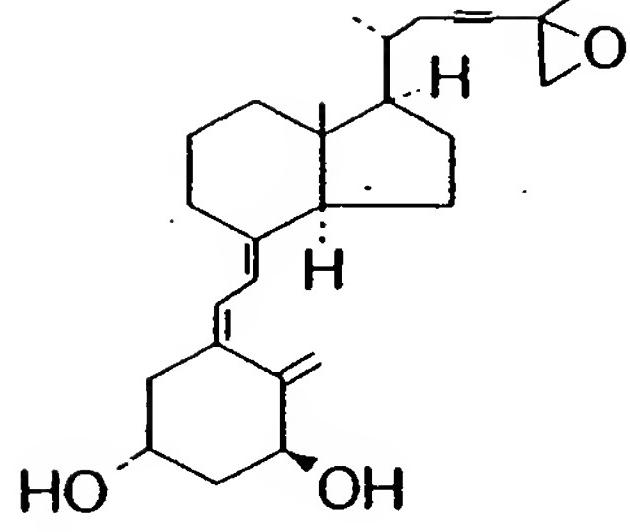


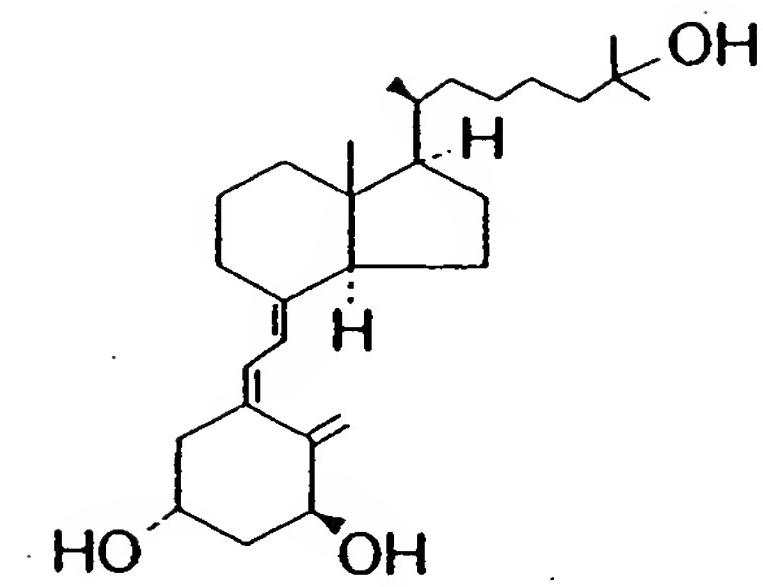
Fig. 1A-14

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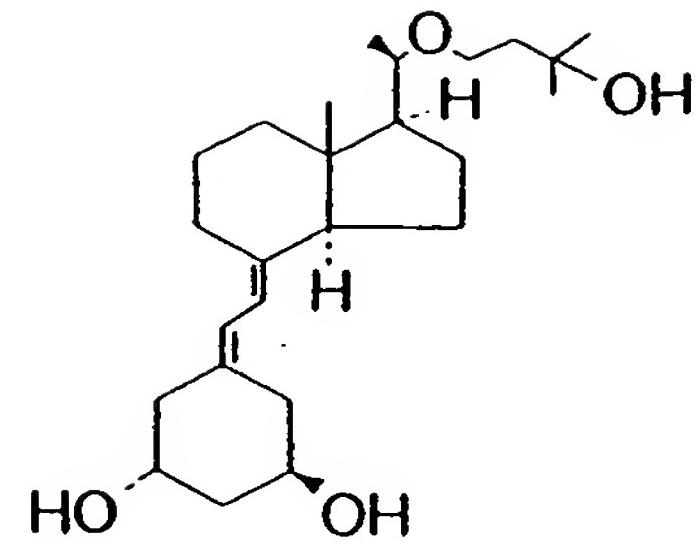
25,26-epoxy-23-yne-
19-nor-1 α -(OH)-D₃

ZBB



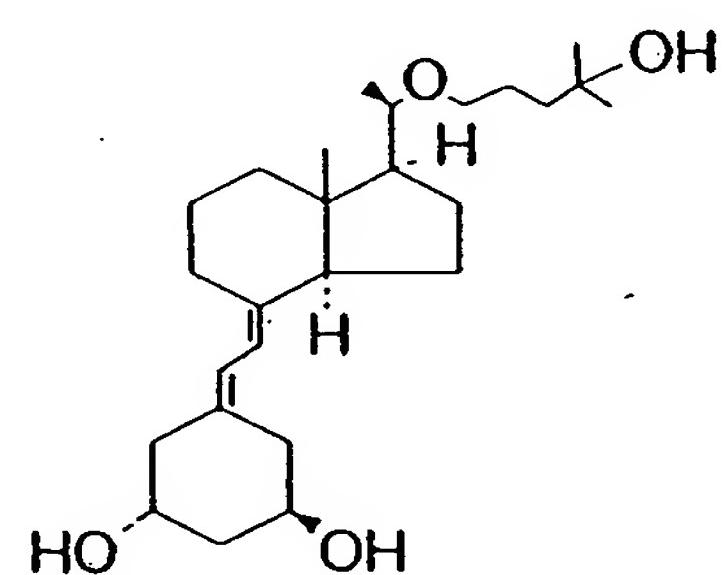
20-epi-24-homo-
1 α ,25-(OH)₂-D₃

ZBC



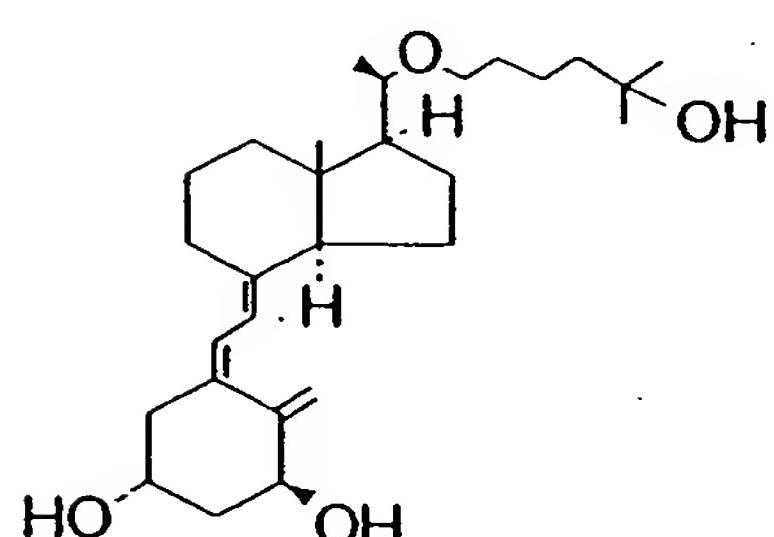
20-epi-22-oxa-
1 α ,25-(OH)₂-D₃

ZBD



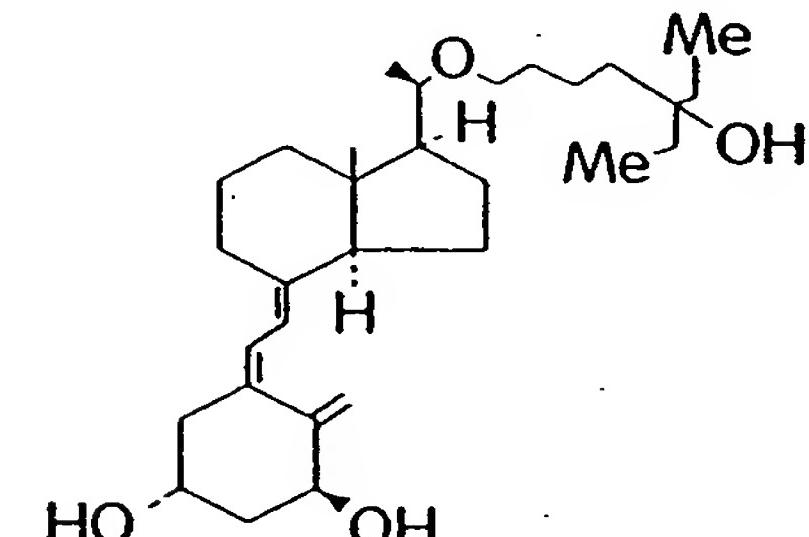
20-epi-22-oxa-
24-homo-1 α ,25-(OH)₂-D₃

ZBE



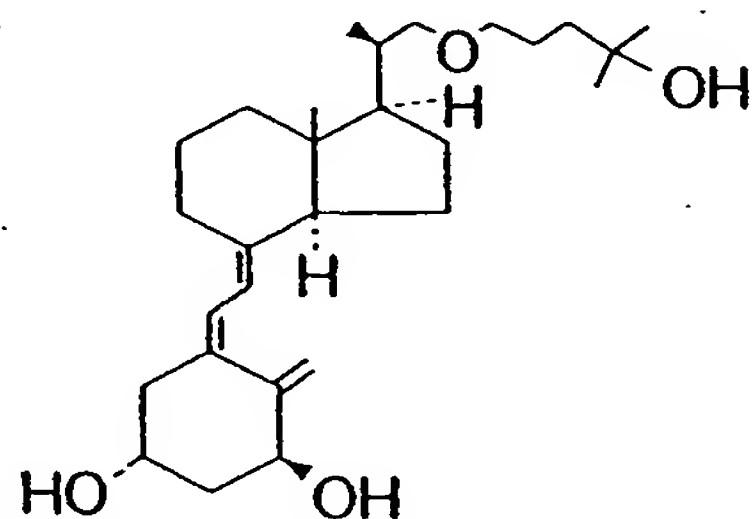
20-epi-22-oxa-
24-dihomo-1 α ,25-(OH)₂-D₃

ZBF



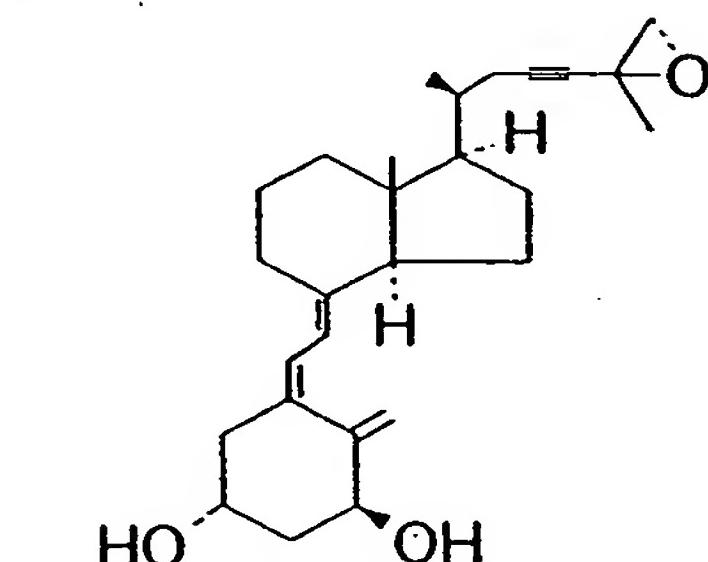
20-epi-22-oxa-24-dihomo-
26,27-dihomo-1 α ,25-(OH)₂-D₃

ZBG



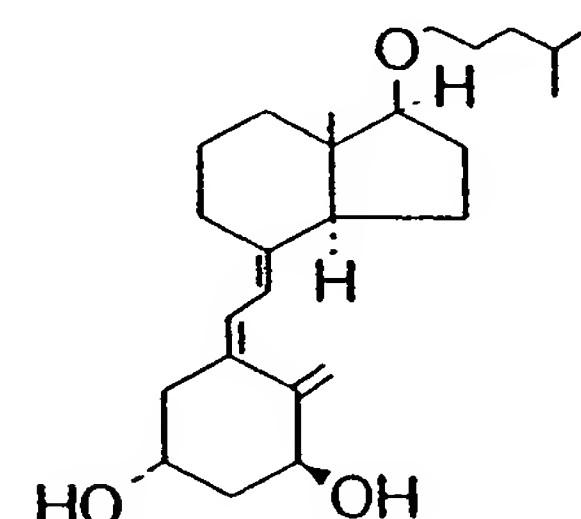
20-epi-23-oxa-24a,24b-
dihomo-1 α ,25-(OH)₂-D₃

ZBH



25,26-epoxy-23-yne-
20-epi-1 α ,25-(OH)-D₃

ZBI

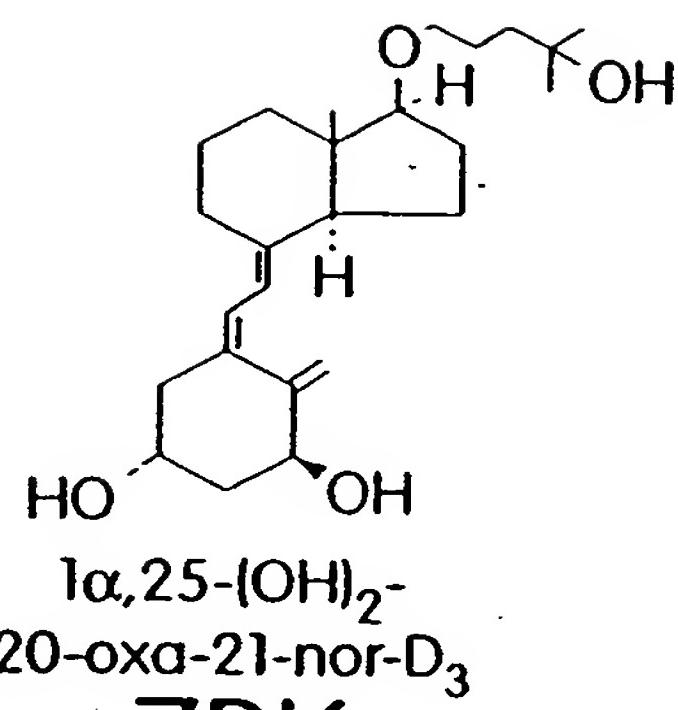


1 α -(OH)-20-oxa-
21-nor-D₃

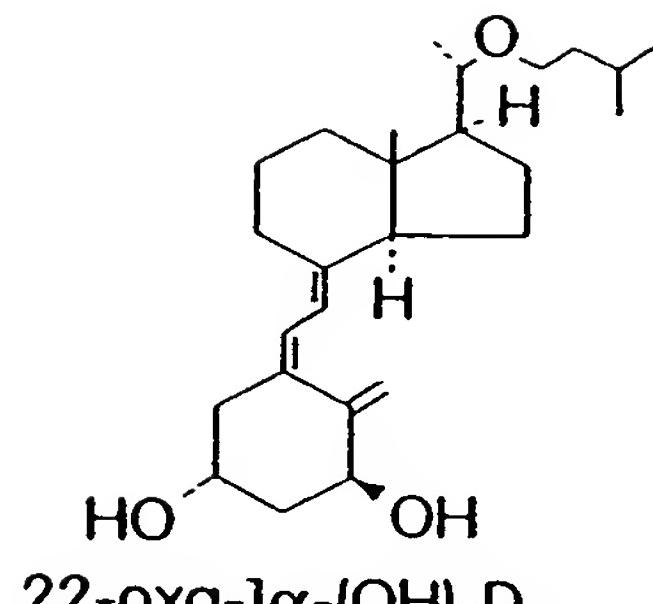
ZBJ

Fig. 1A-15

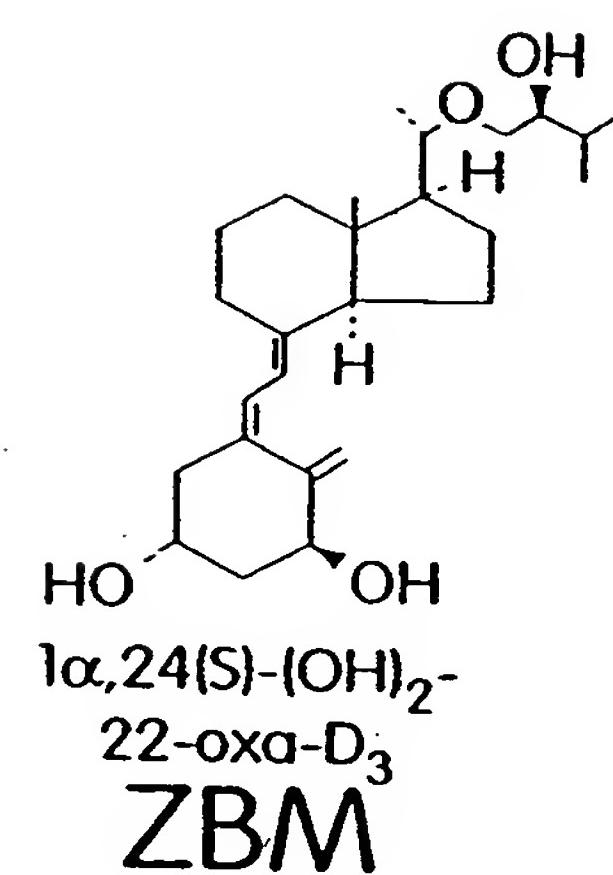
18/36



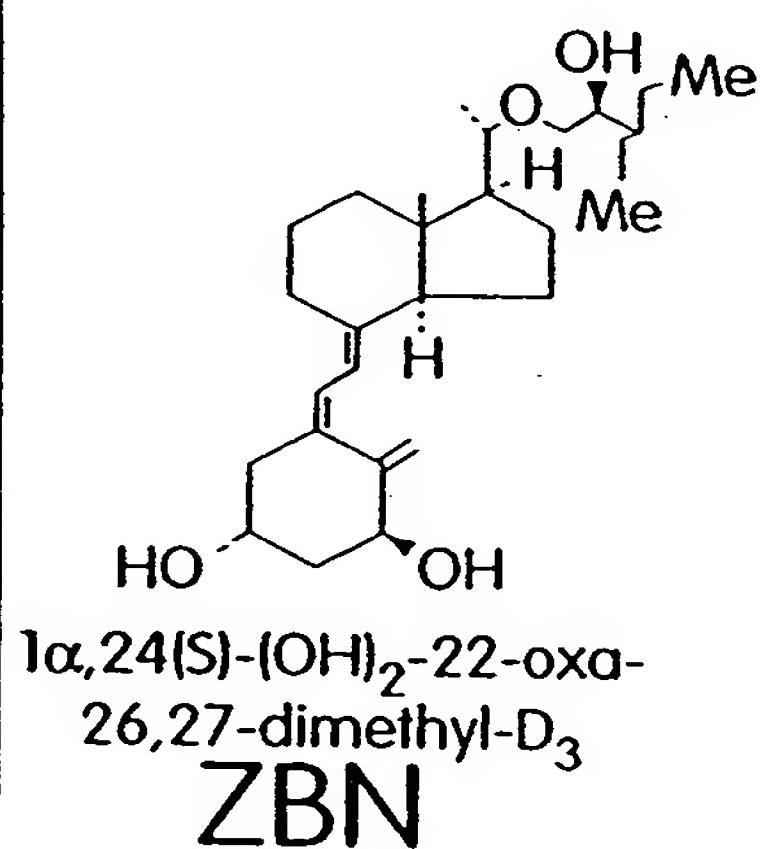
ZBK



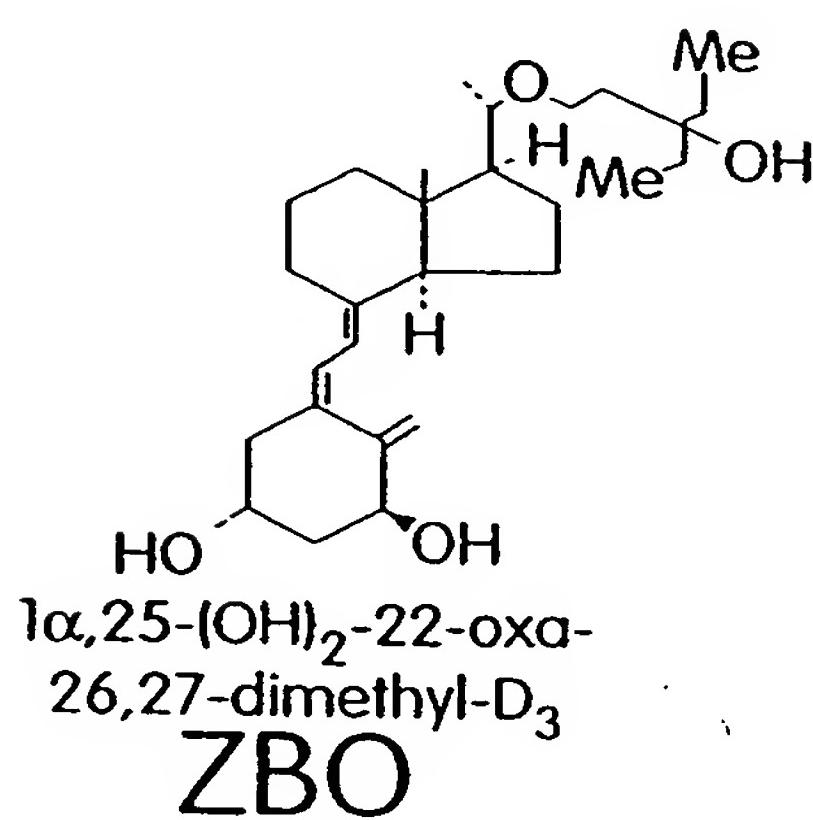
ZBL



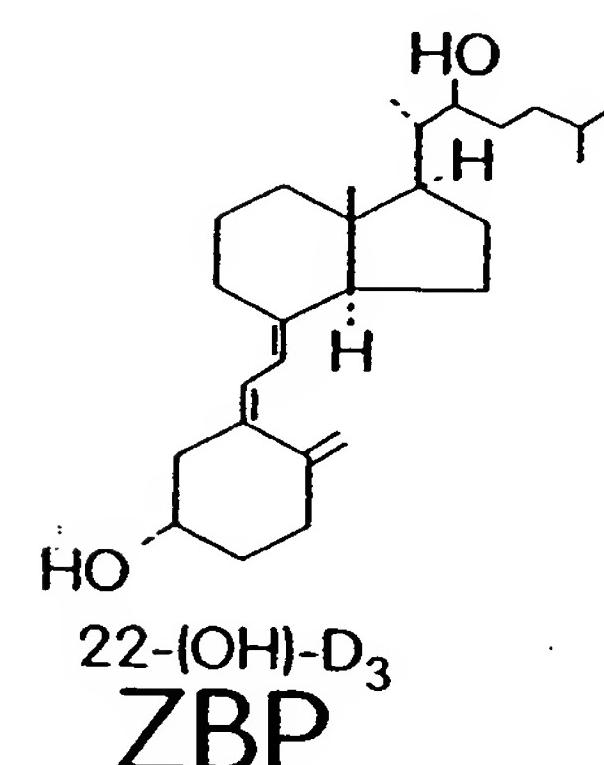
ZBM



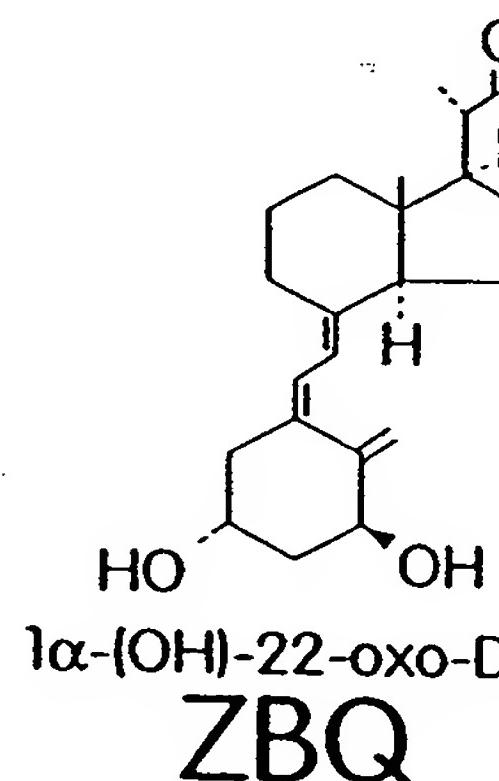
ZBN



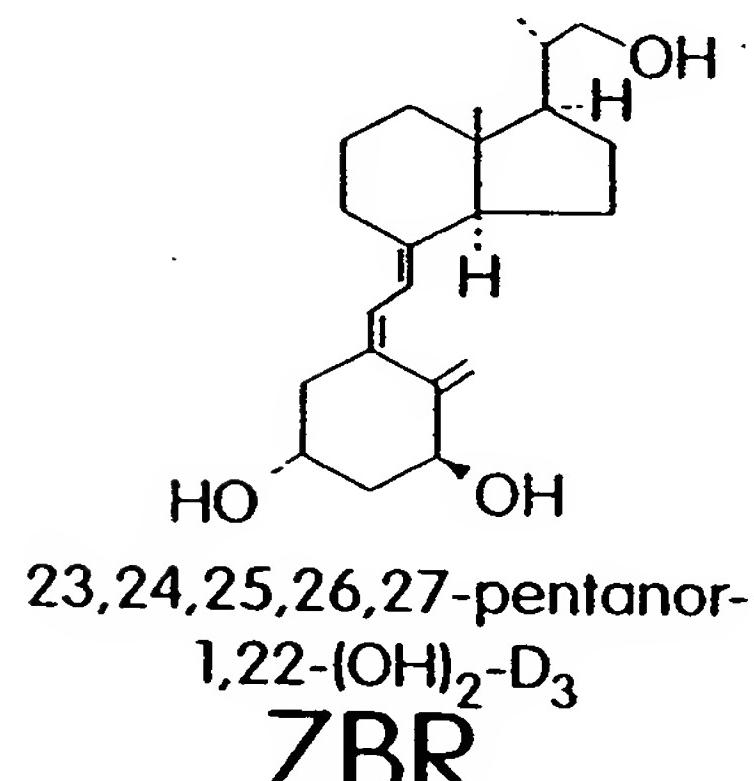
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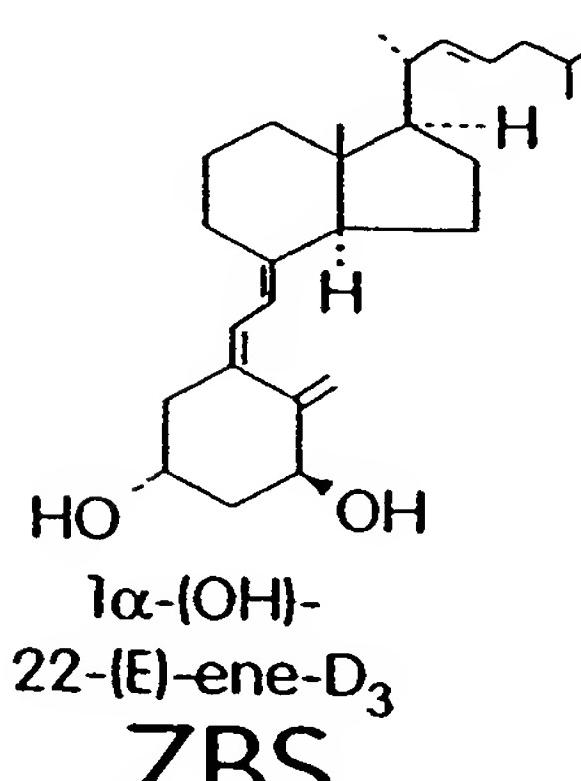
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ZBQ



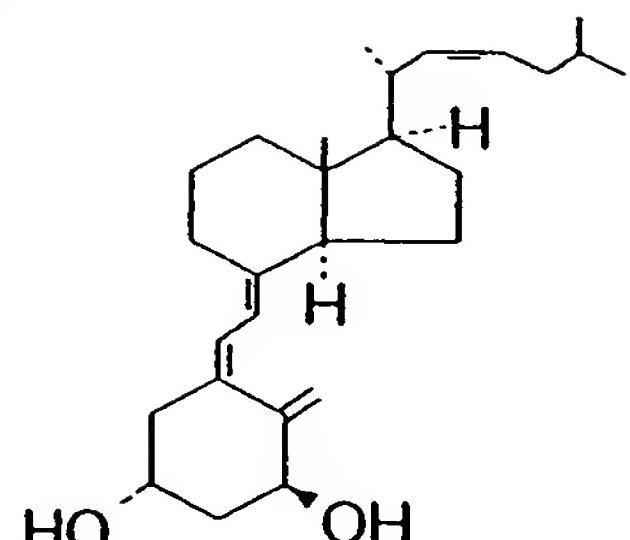
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ZBS

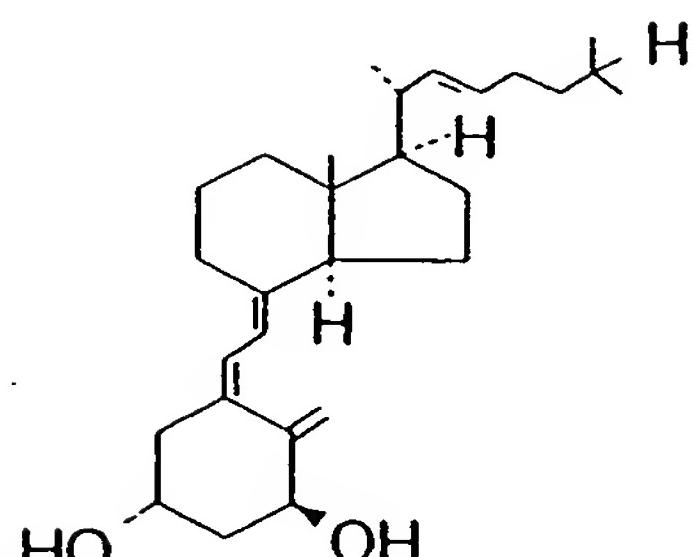
Fig. 1A-16

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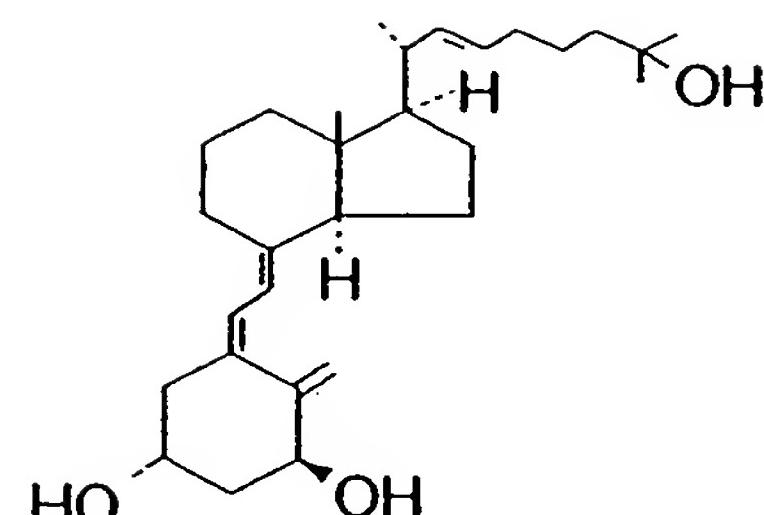
1 α -(OH)-
22-(Z)-ene-D₃

ZBT



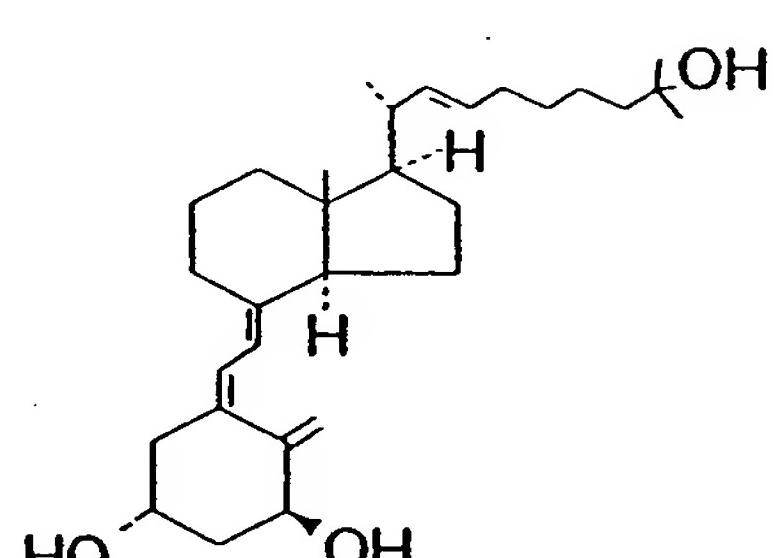
1 α ,25-(OH)₂-
22-ene-24-homo-D₃

ZBU



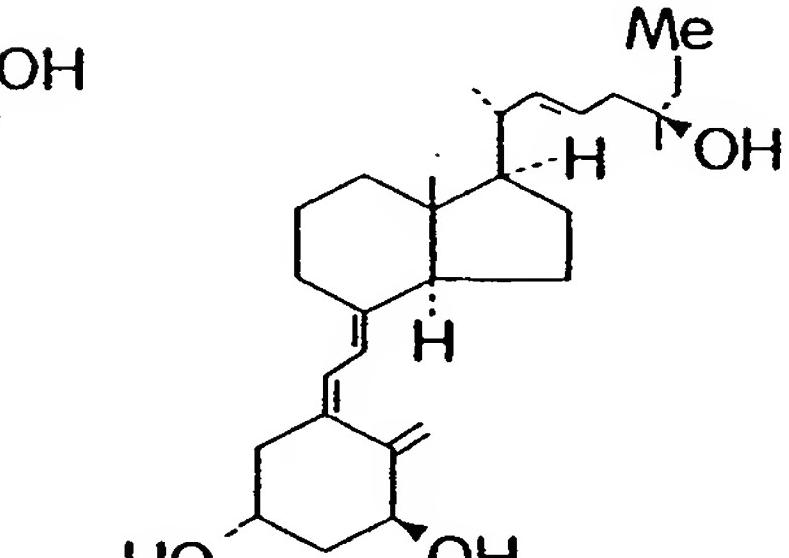
1 α ,25-(OH)₂-22-ene-
24,24-dihomo-D₃

ZBV



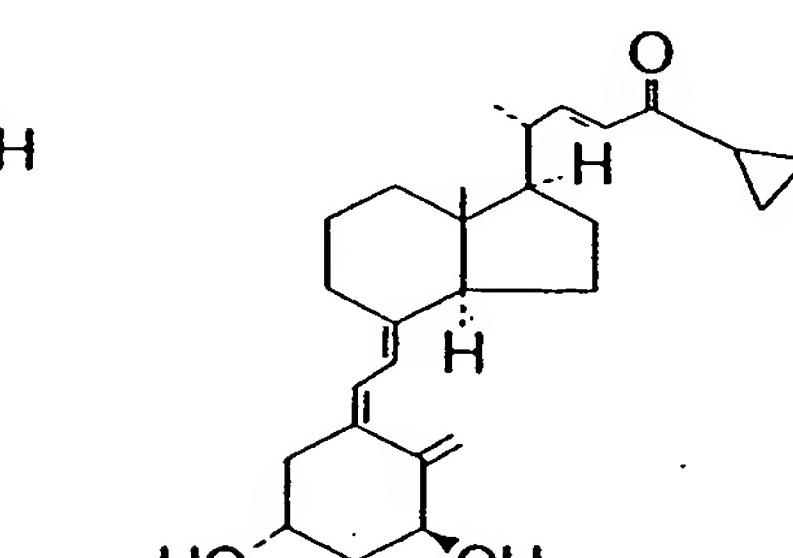
22-Dehydro-24,24,24-
trihomo-1 α ,25-(OH)₂-D₃

ZBW



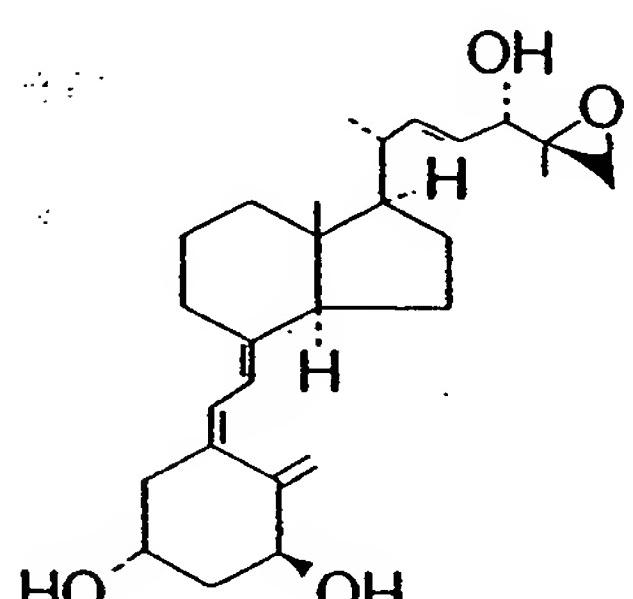
26-homo-22-dehydro
1 α -25(R)-(OH)₂-D₃

ZBX



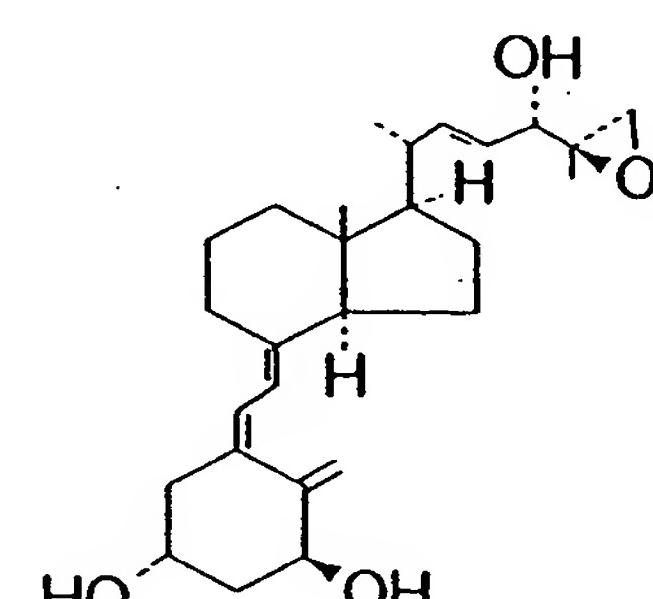
1 α -(OH)-22-ene-24-oxo-
26,27-dehydro-D₃

ZBY



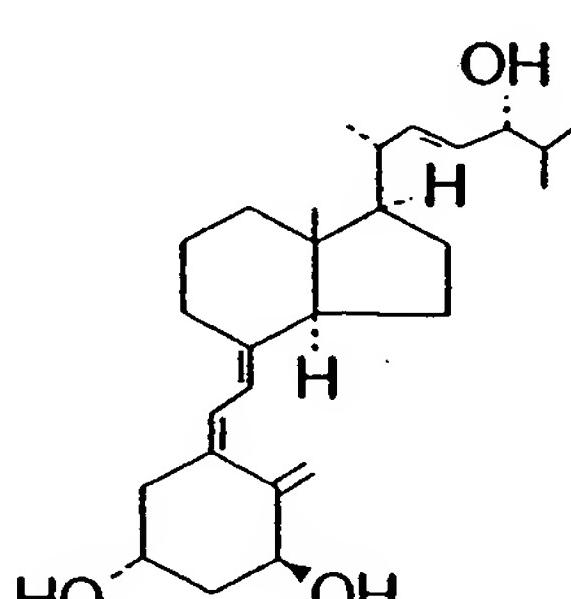
(24S,25S)-25,26-epoxy-
22-ene-1 α ,24-(OH)₂-D₃

ZBZ



(24S,25R)-25,26-epoxy-
22-ene-1 α ,24-(OH)₂-D₃

ZCA



(22E,24R)1 α ,24-(OH)₂-
22-dehydro-D₃

ZCB

Fig. 1A-17

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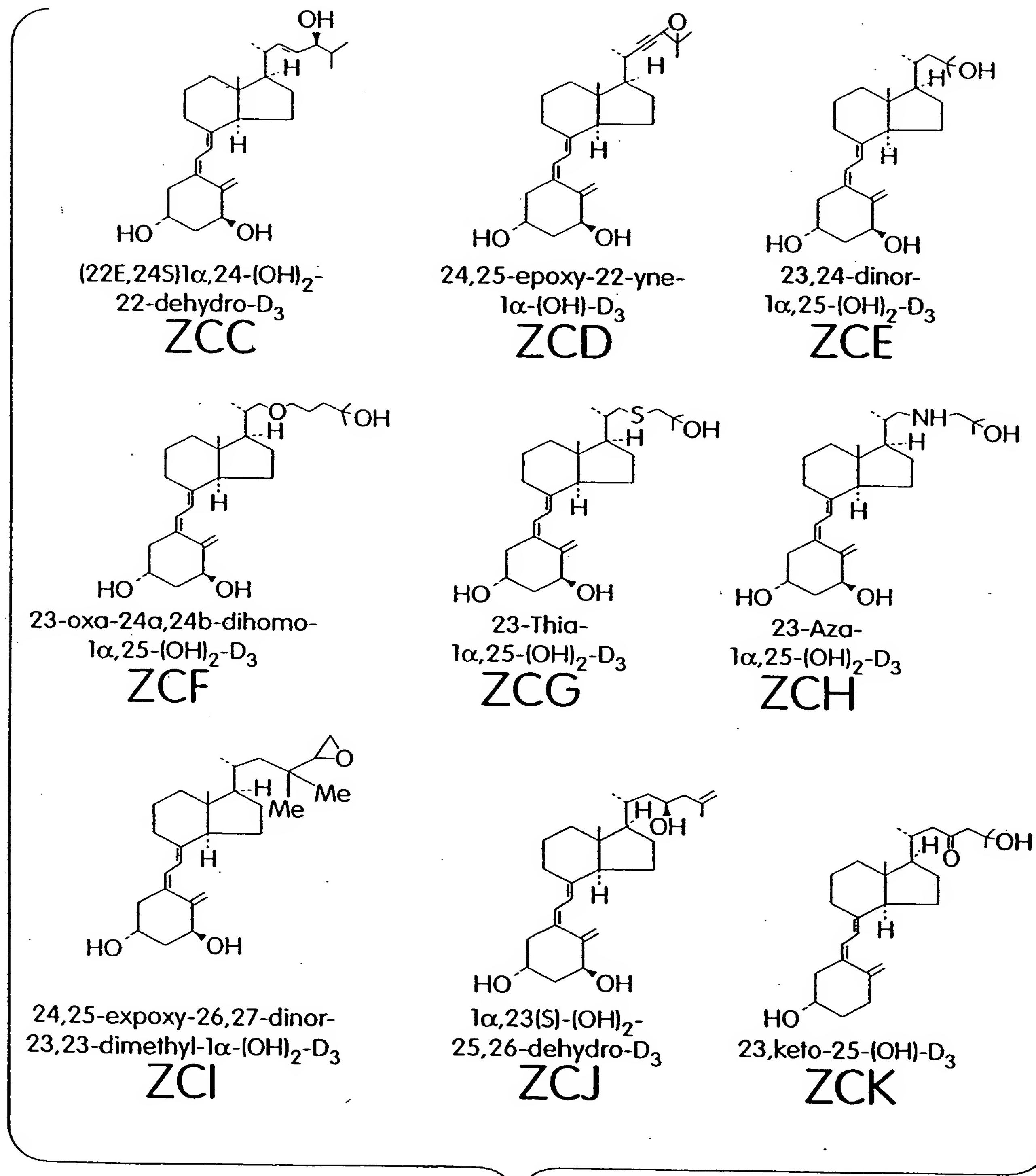


Fig. 1A-18

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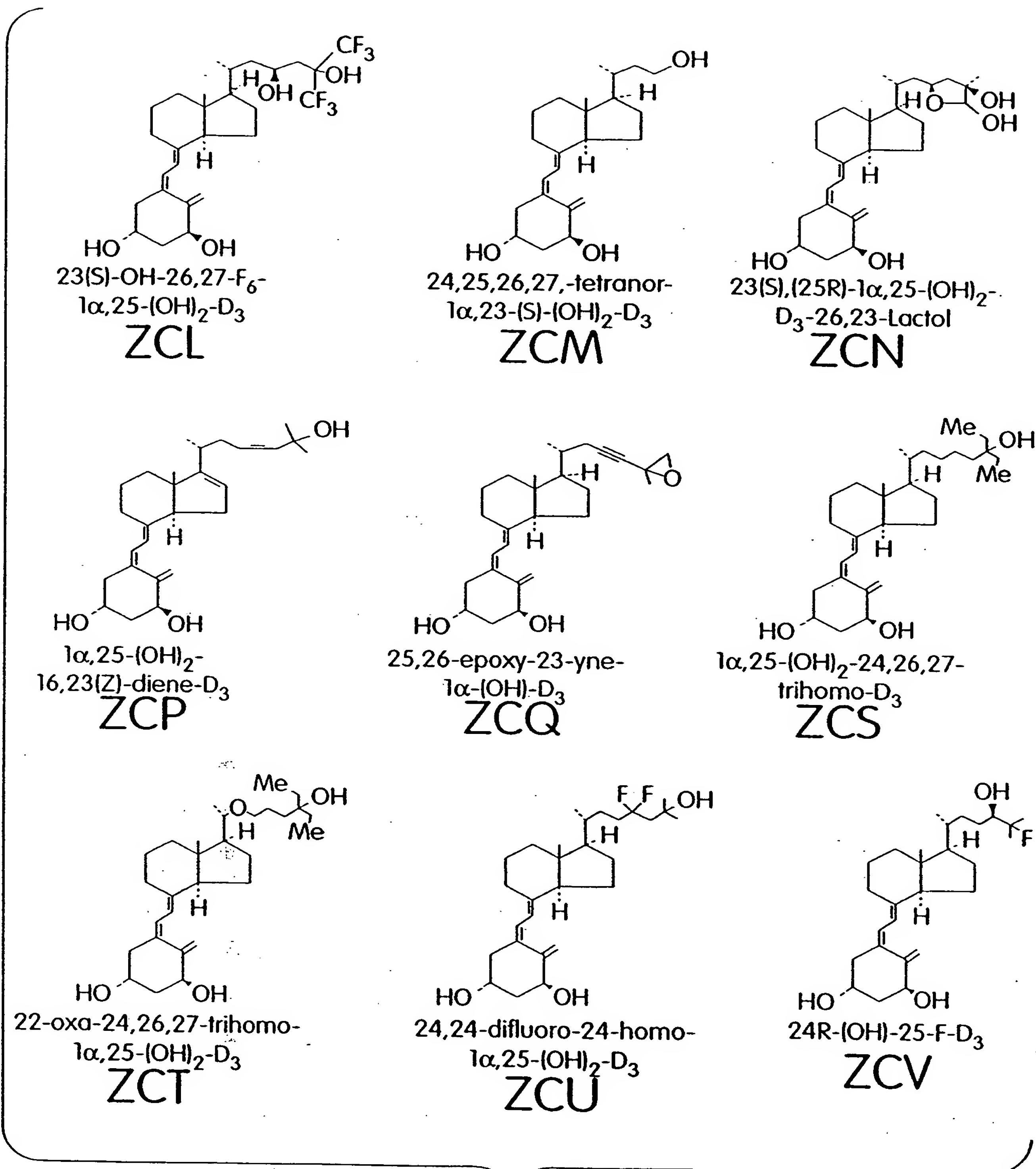


Fig. 1A-19

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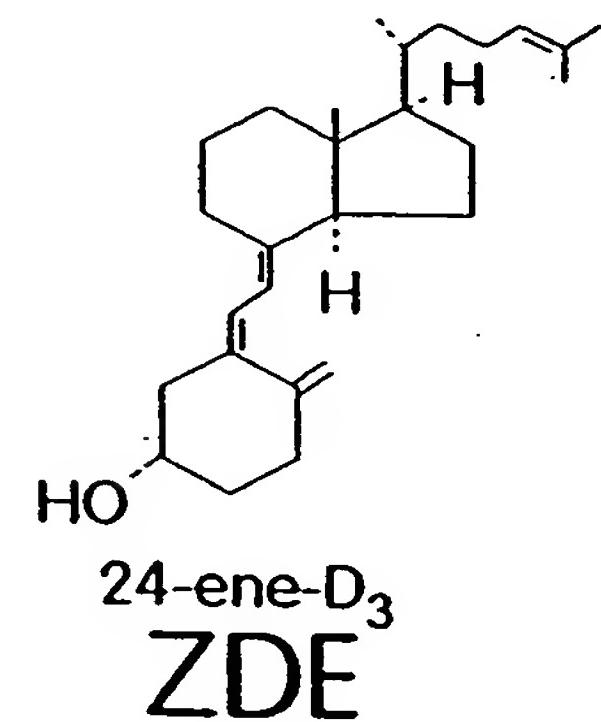
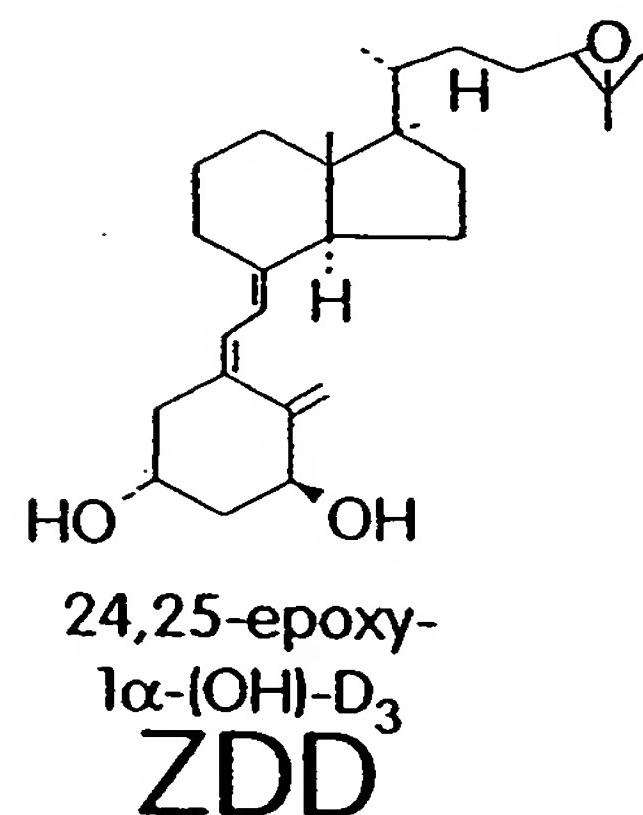
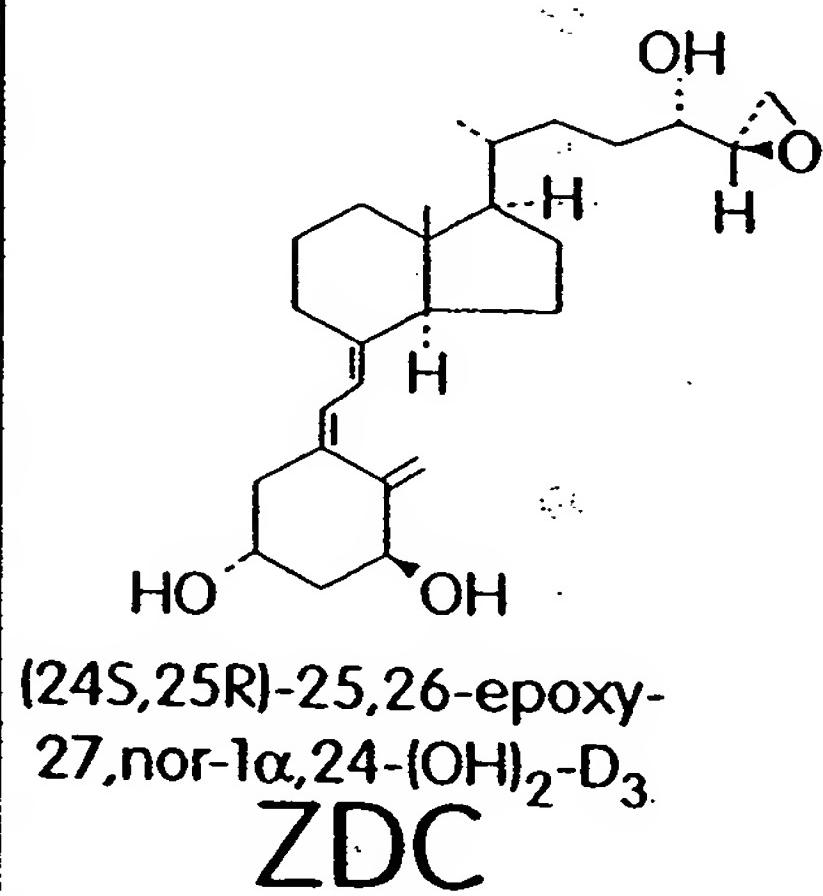
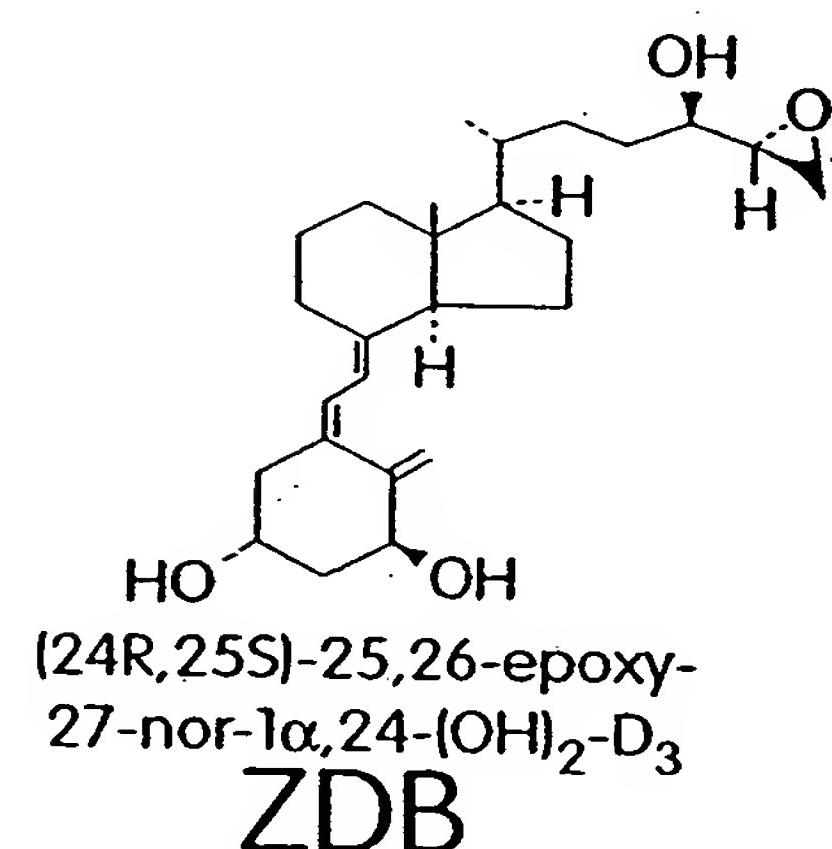
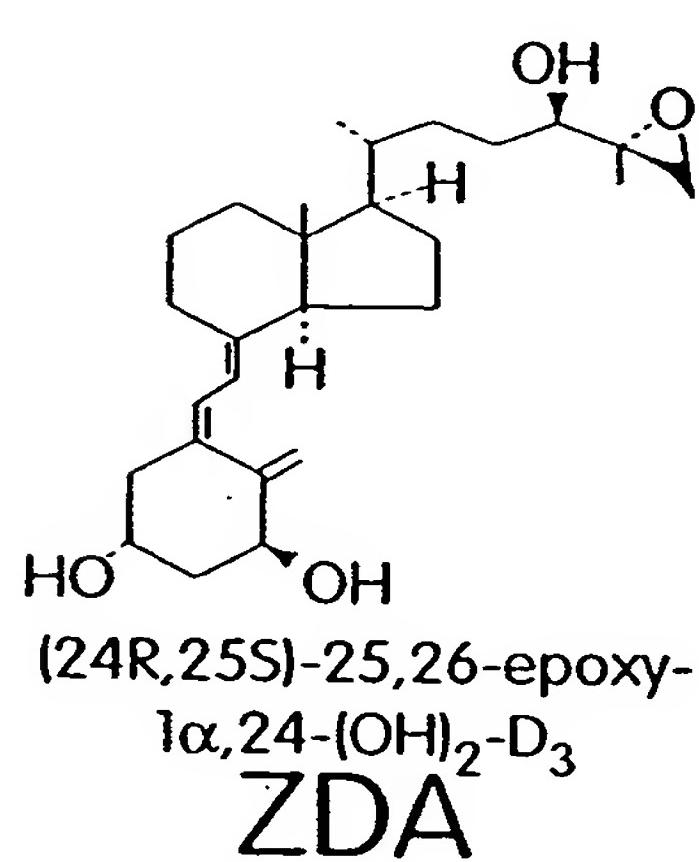
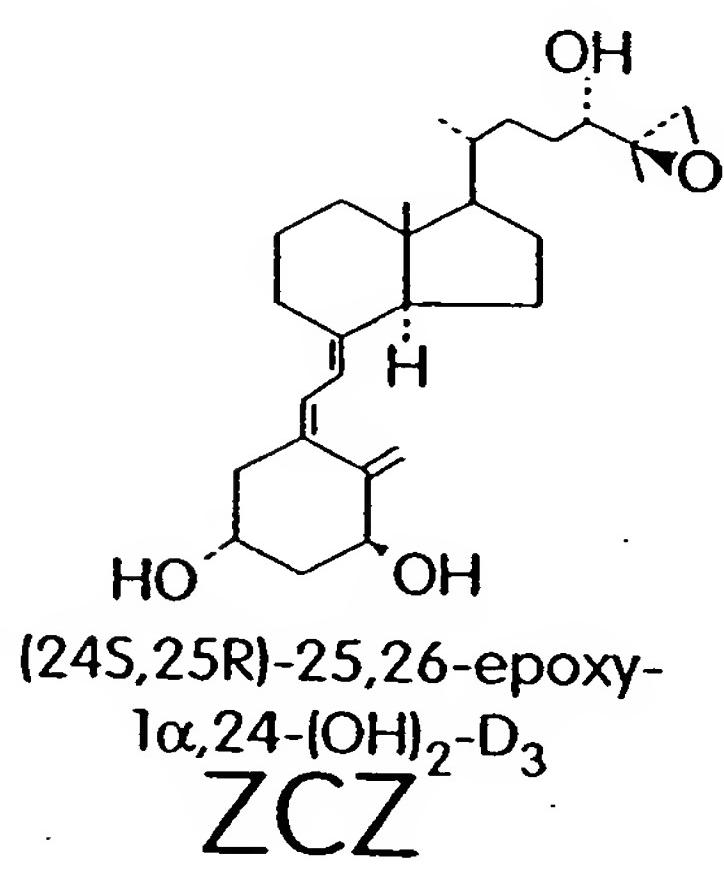
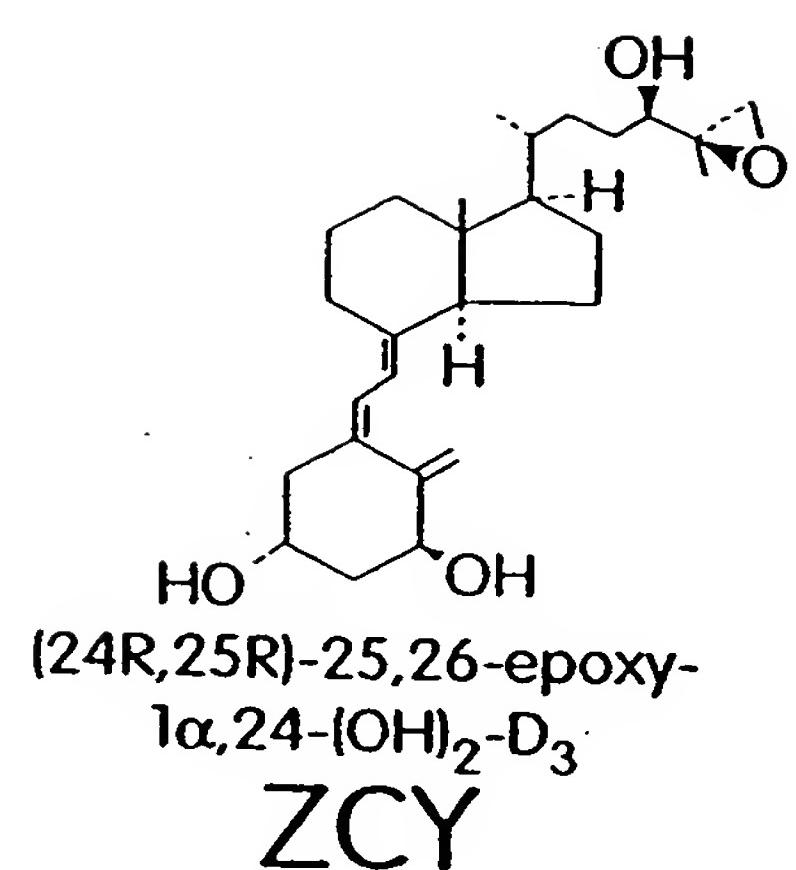
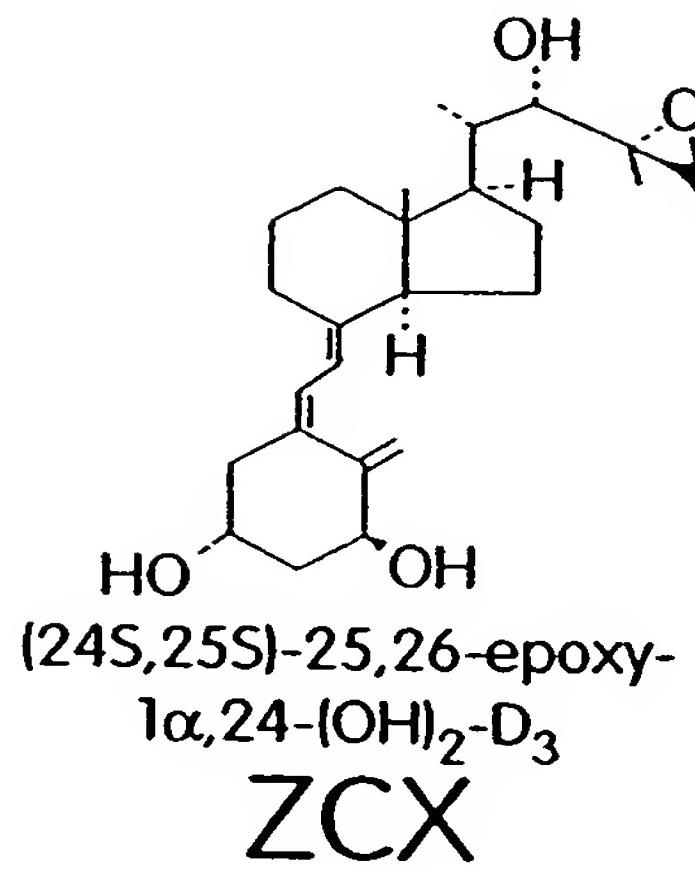
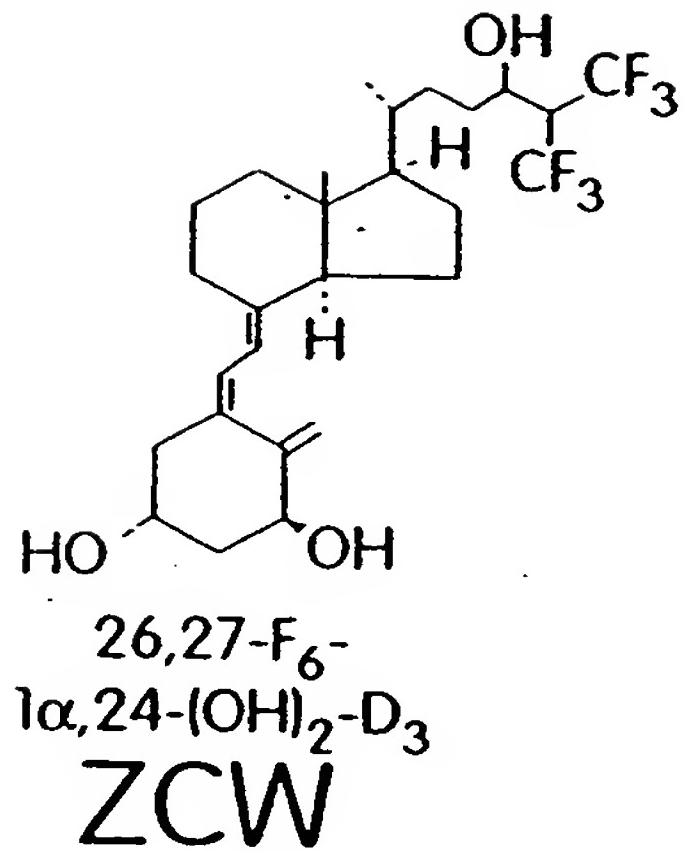


Fig. 1A-20

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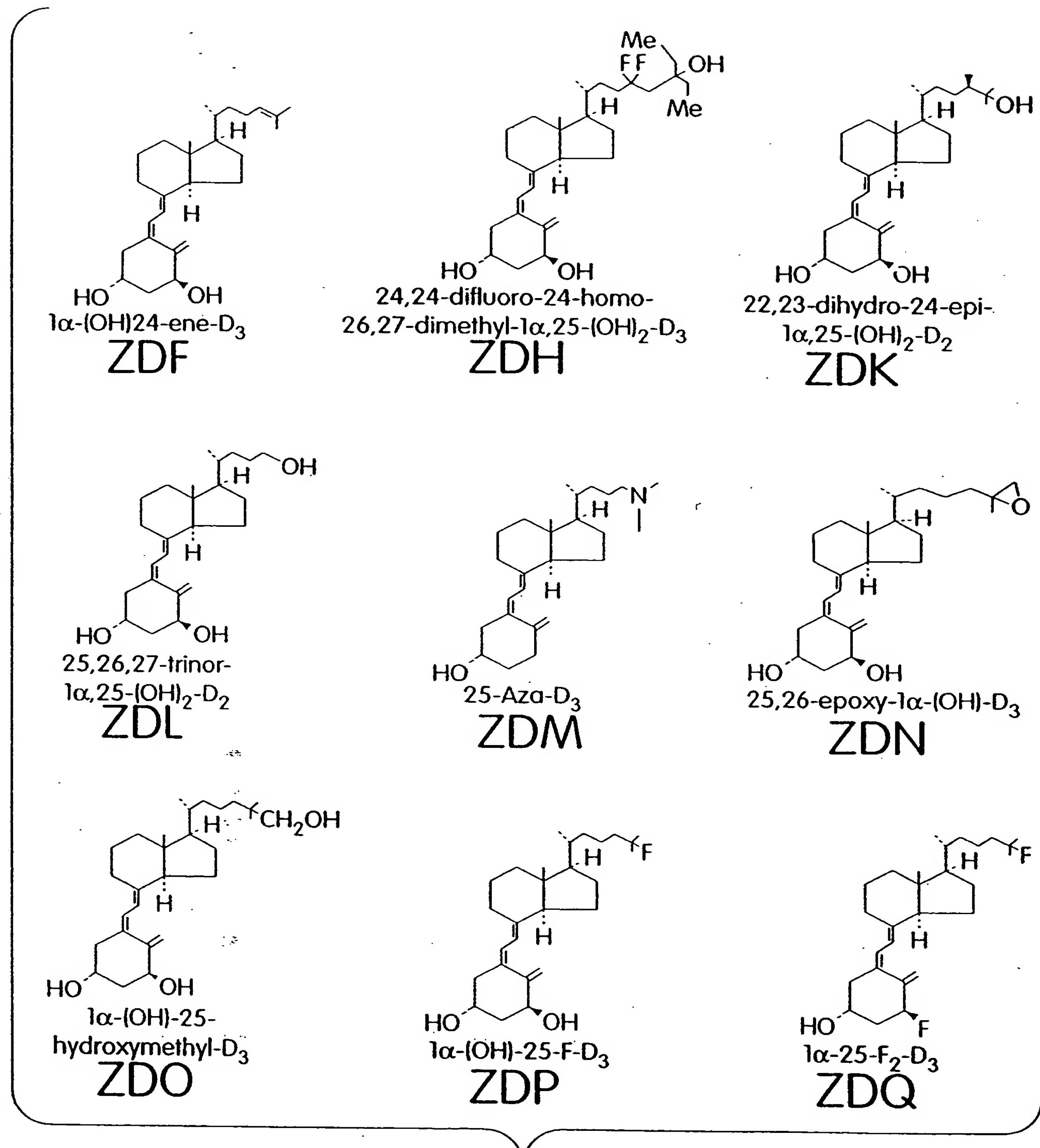


Fig. 1A-21

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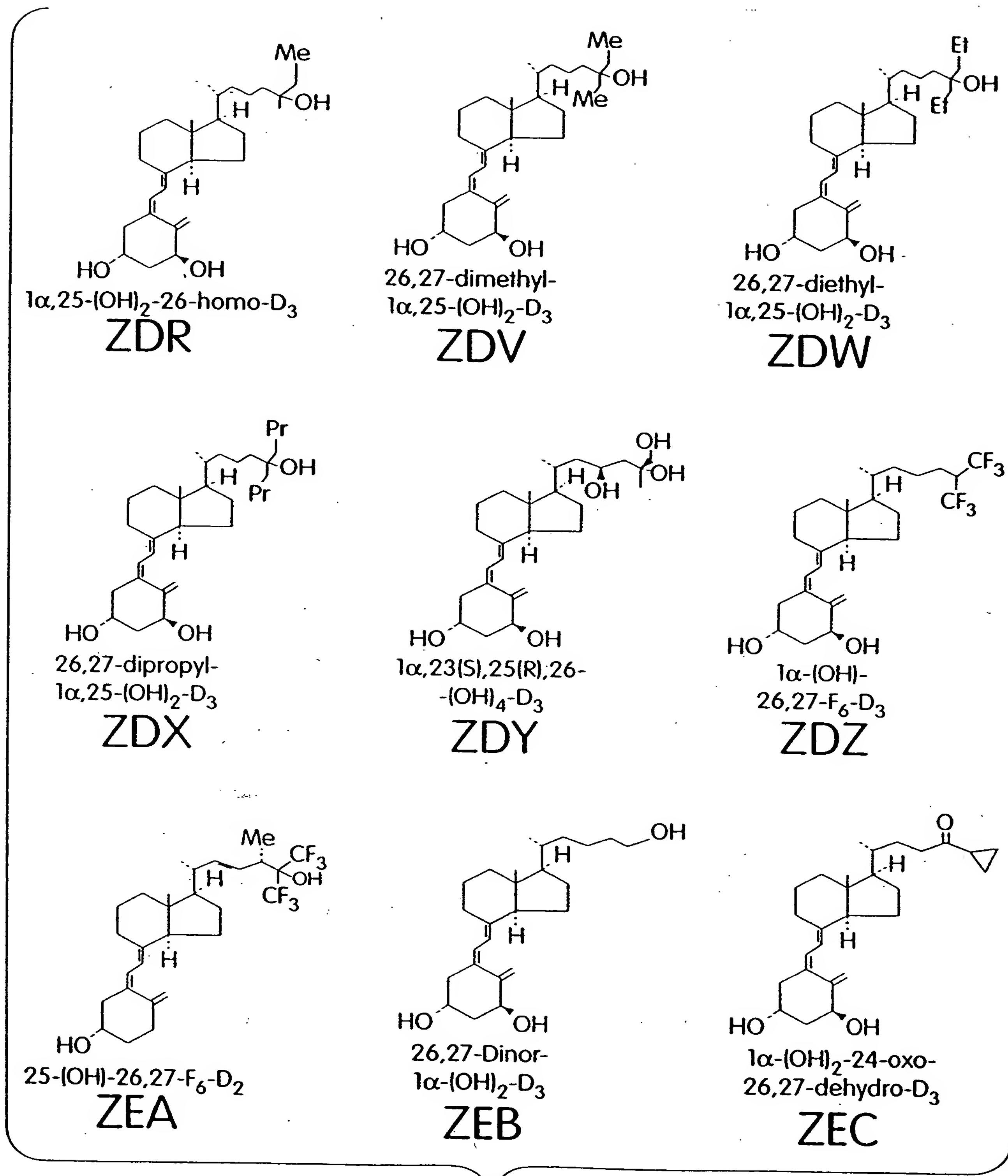


Fig. 1A-22

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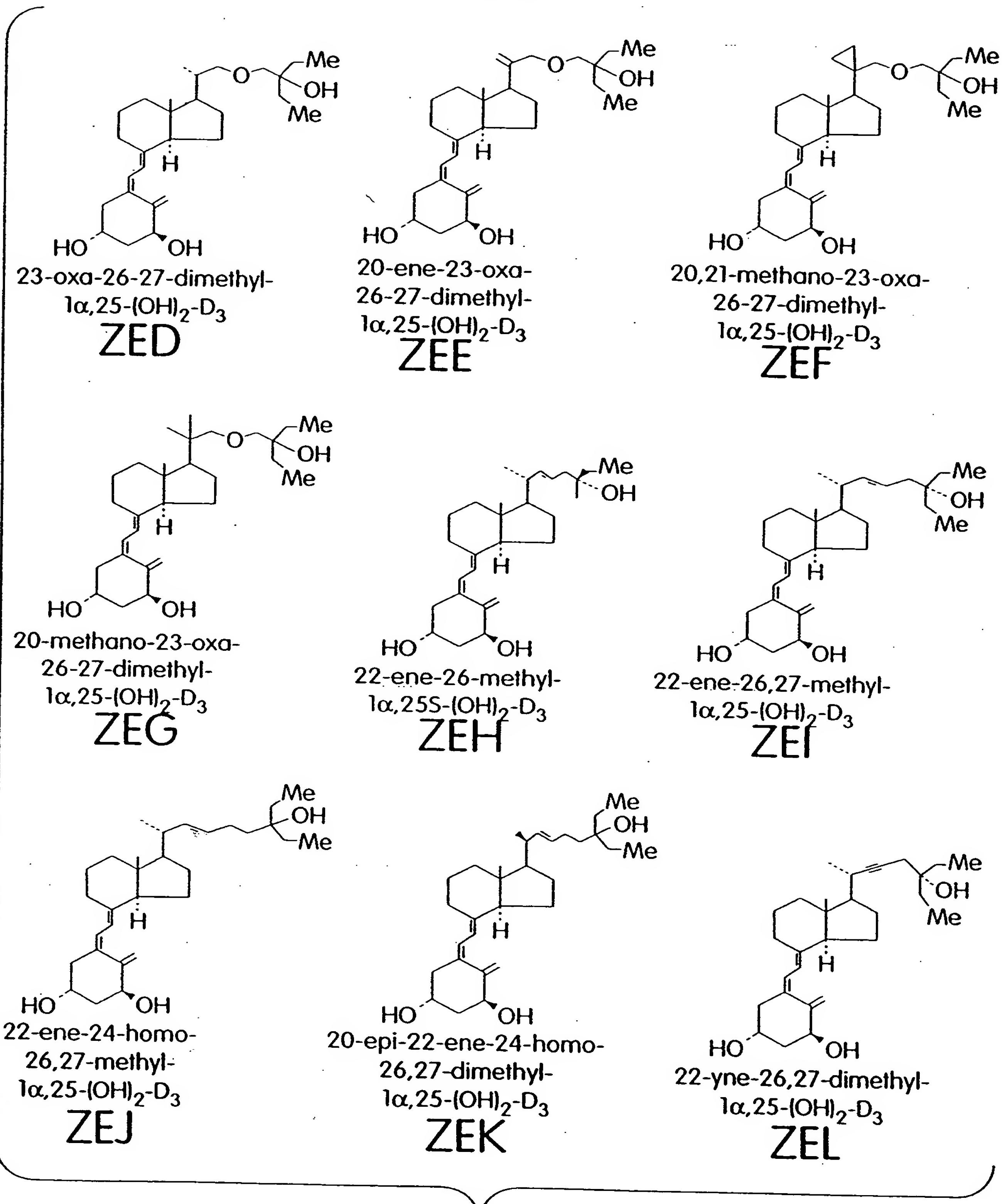


Fig. 1A-23

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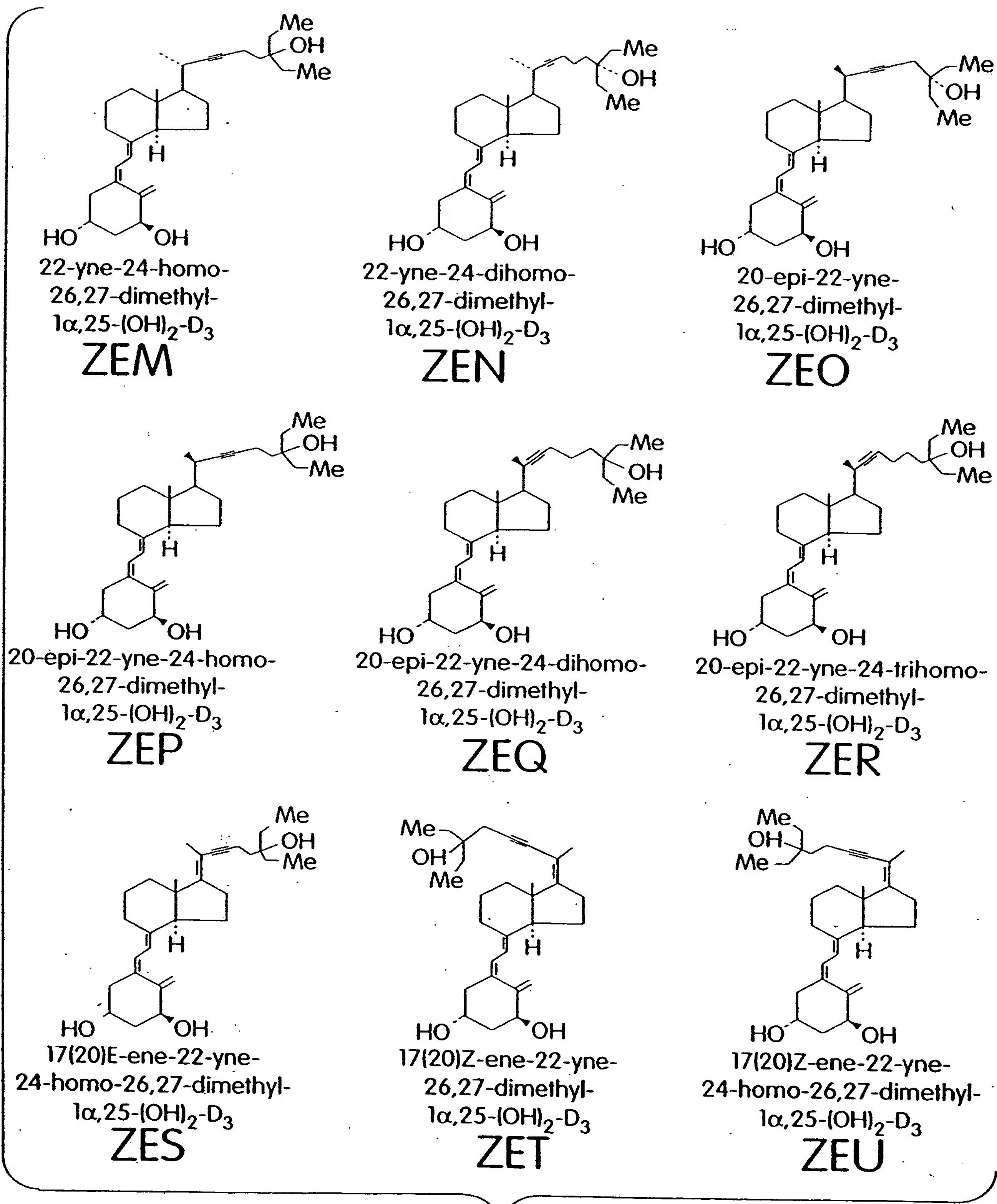


Fig. 1A-24

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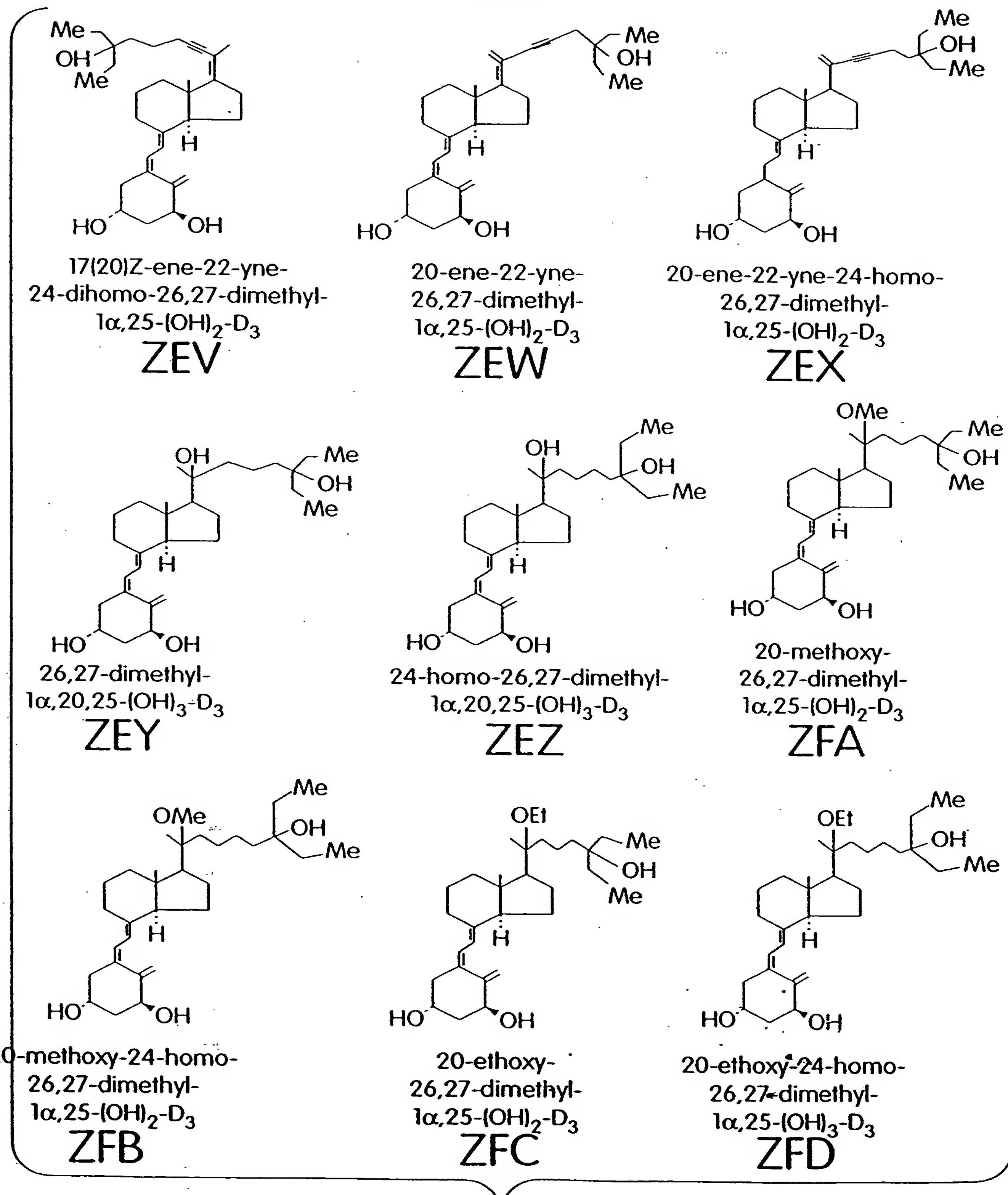
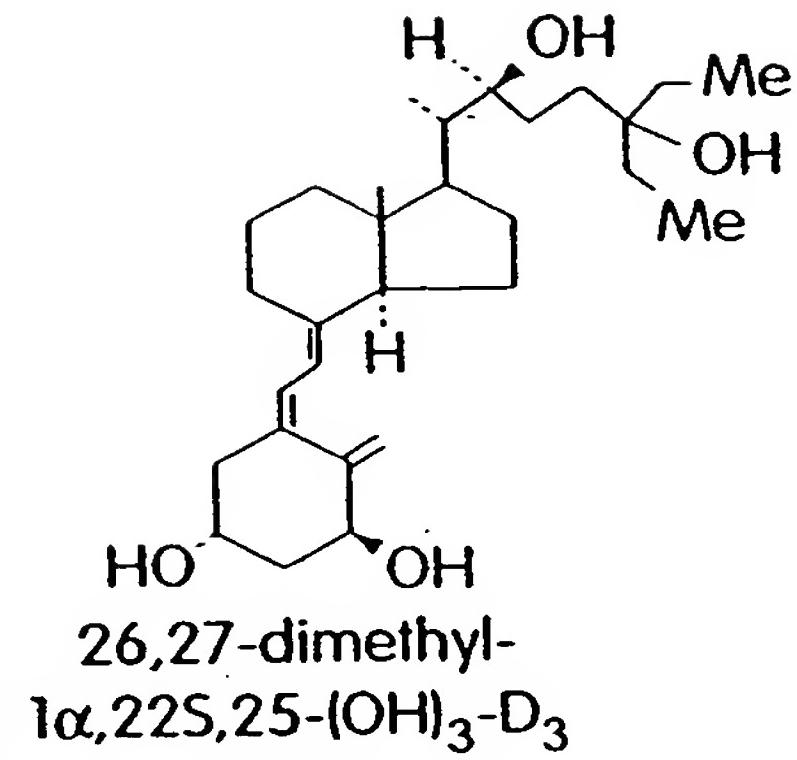
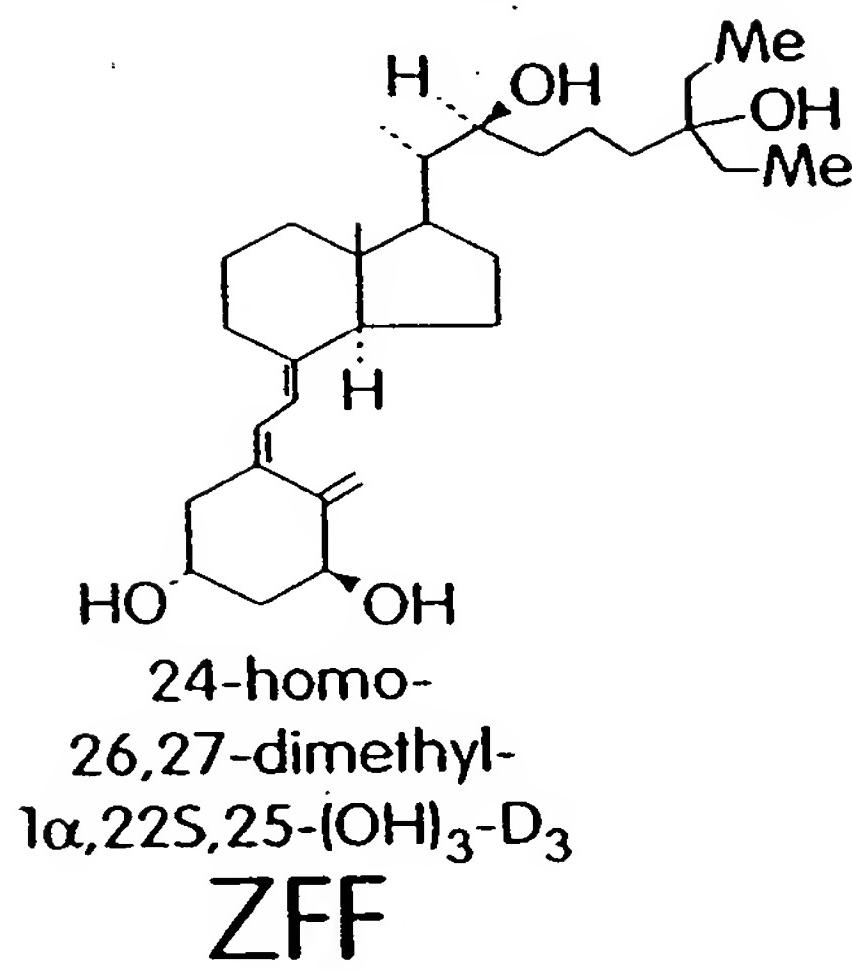


Fig. 1A-25

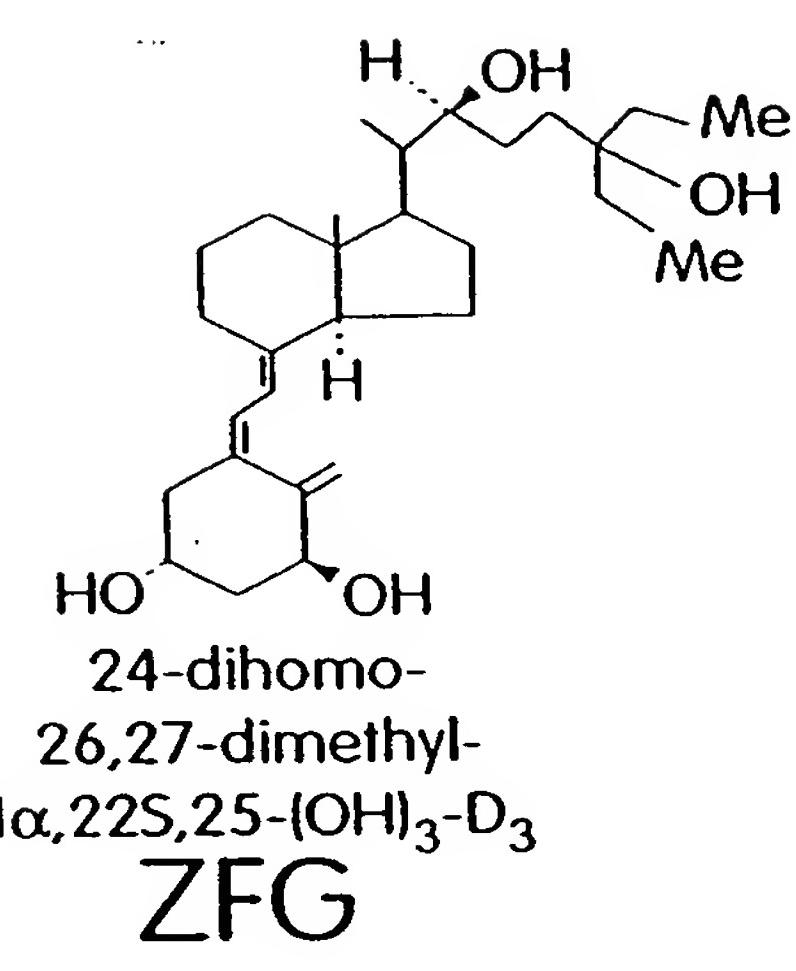
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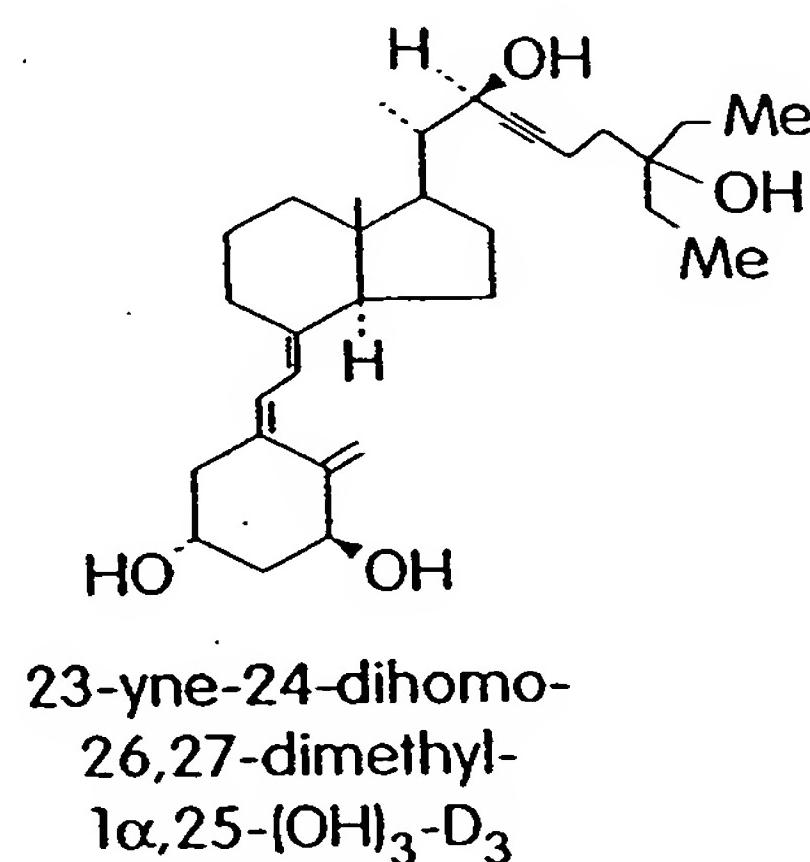
ZFE



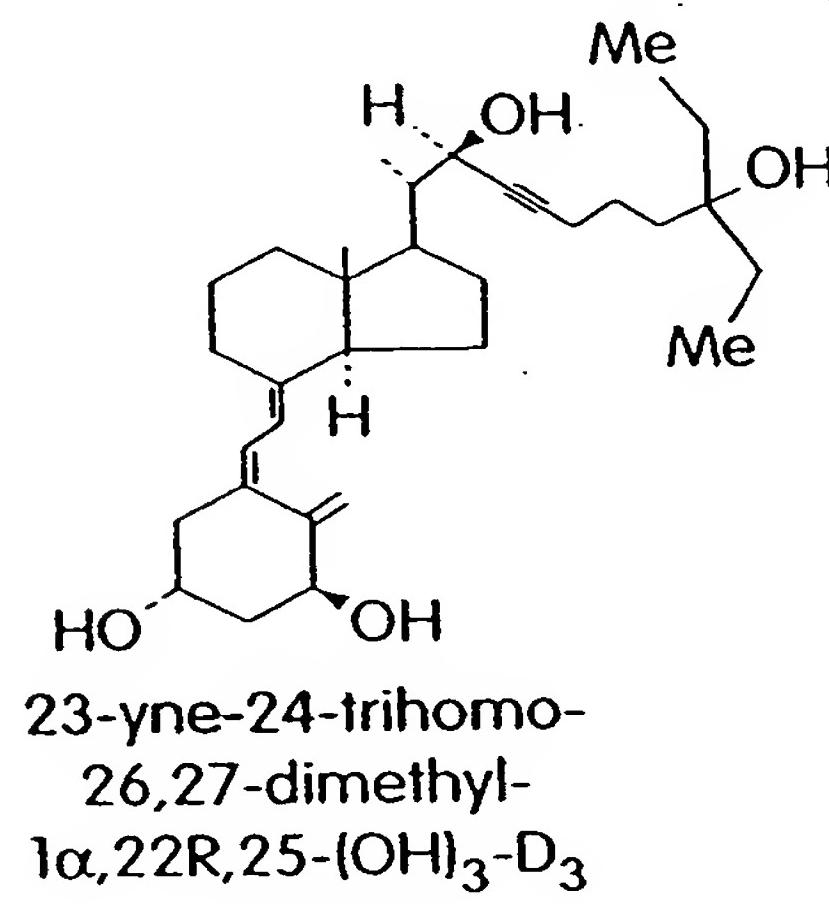
ZFF



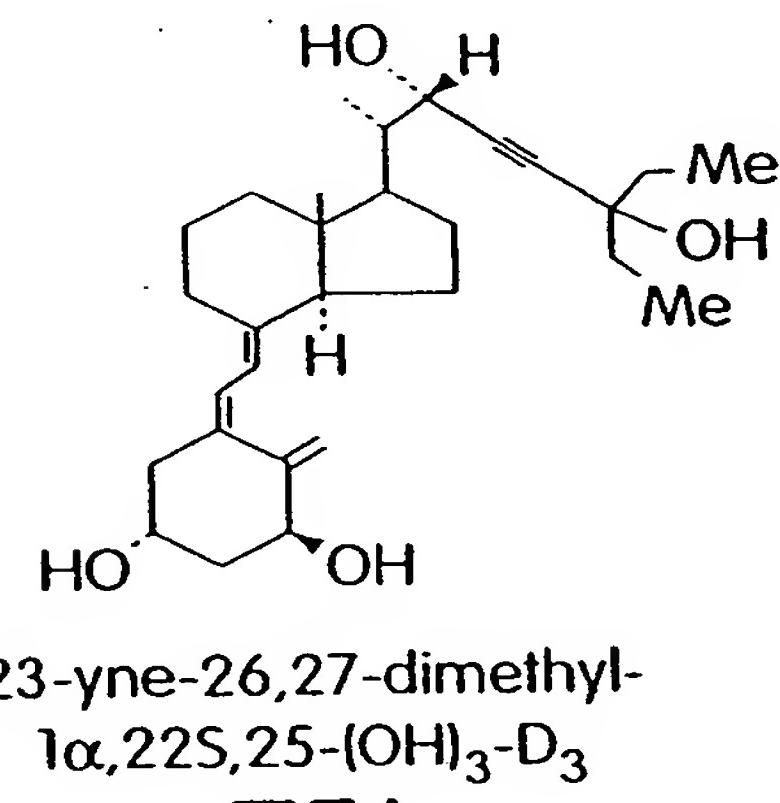
ZFG



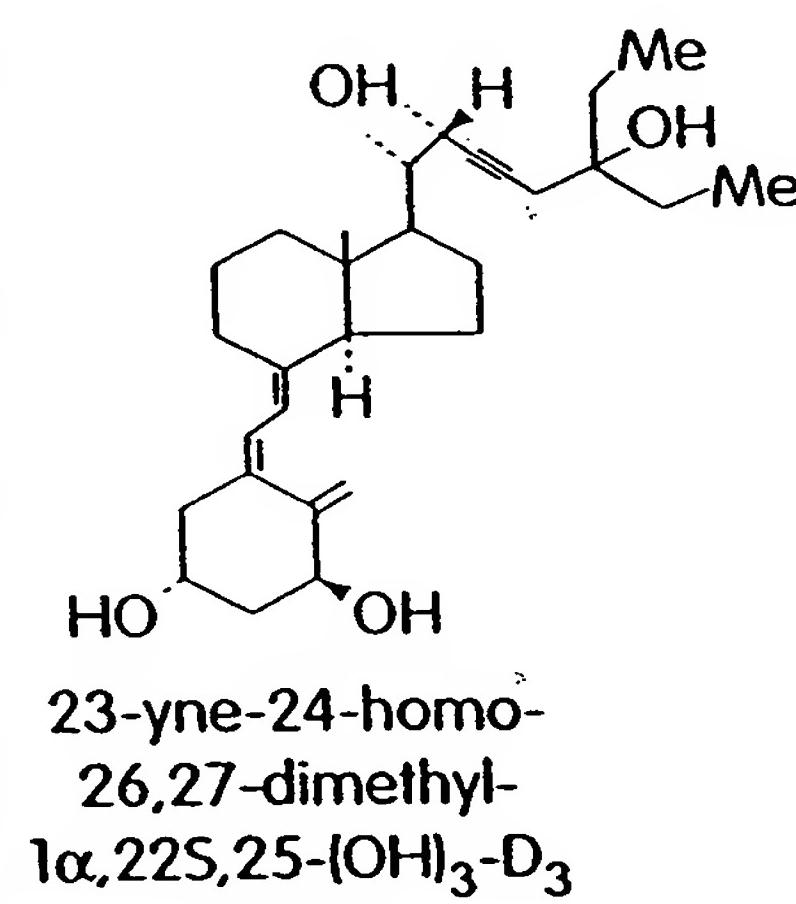
ZFH



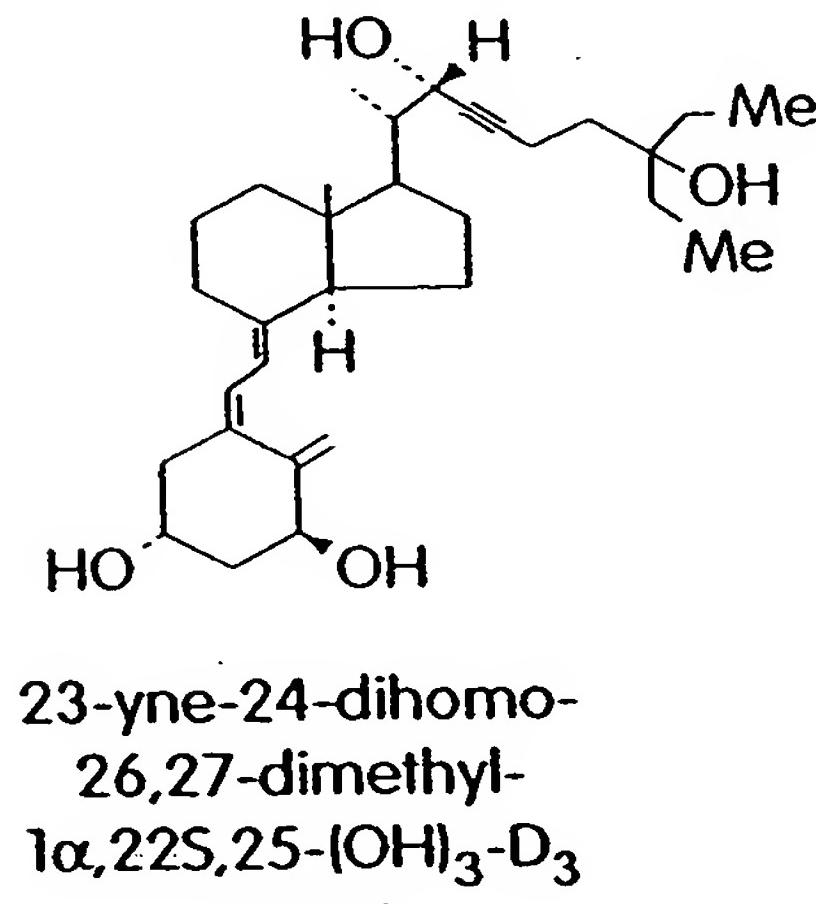
ZFI



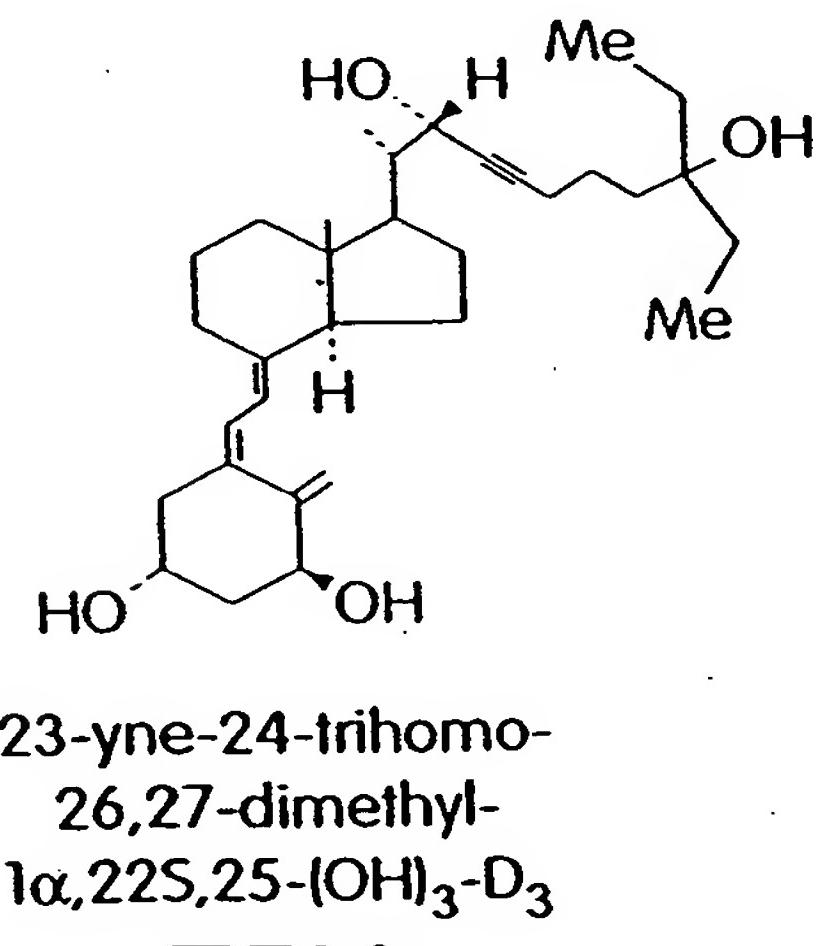
ZFJ



ZFK



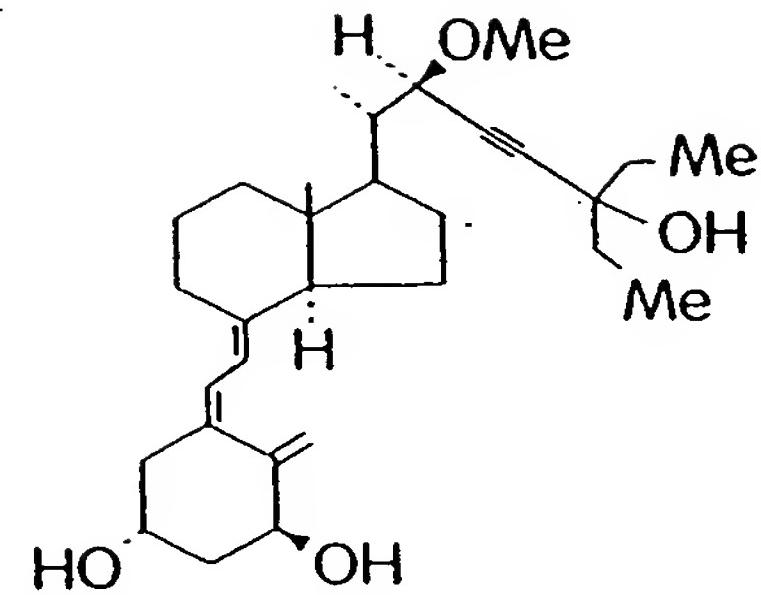
ZFL



ZFM

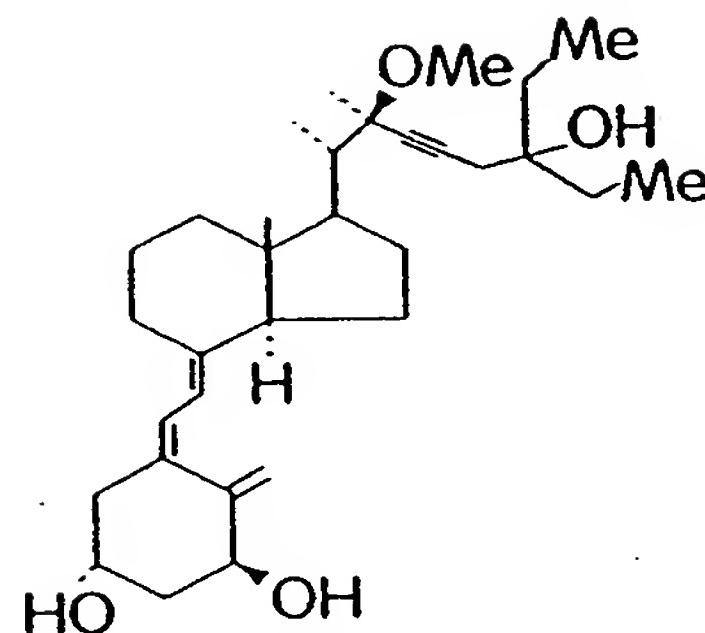
Fig. 1A-26

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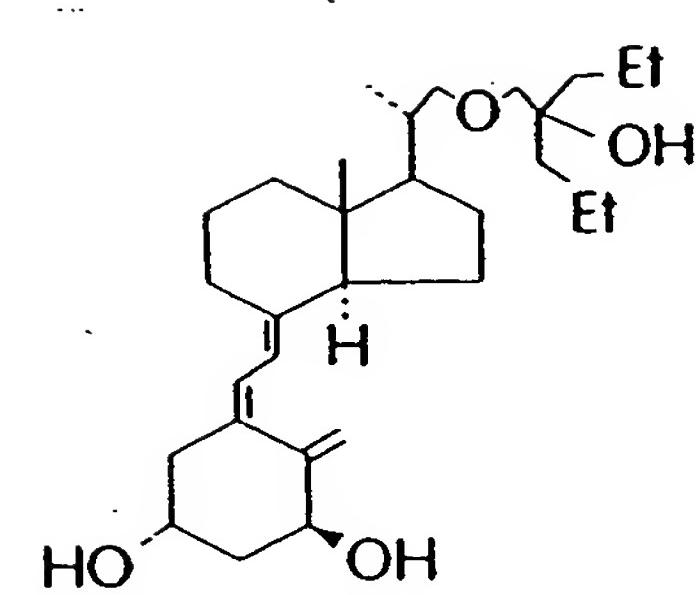
22R-methoxy-23-yne-
26,27-dimethyl-
 $1\alpha,25-(OH)_2-D_3$

ZFN



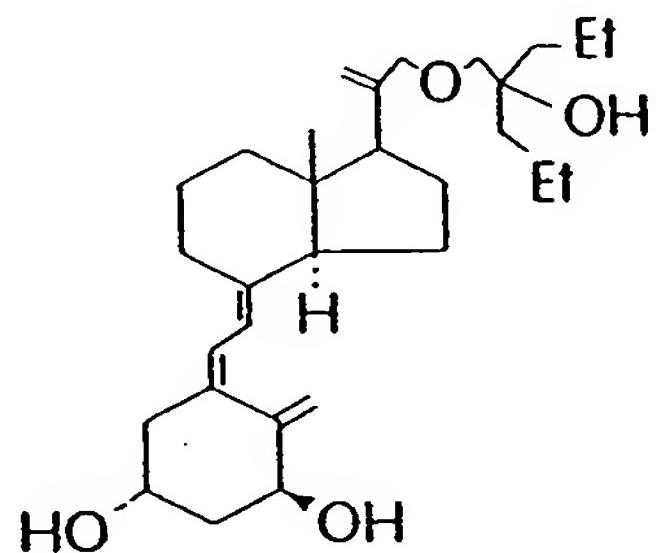
22R-methoxy-23-yne-
24-homo-26,27-dimethyl-
 $1\alpha,25-(OH)_2-D_3$

ZFO



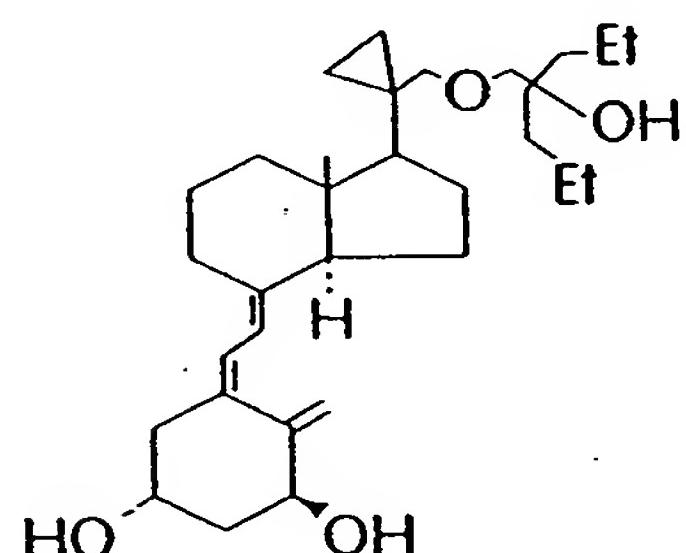
23-oxa-
26,27-diethyl-
 $1\alpha,25-(OH)_2-D_3$

ZFP



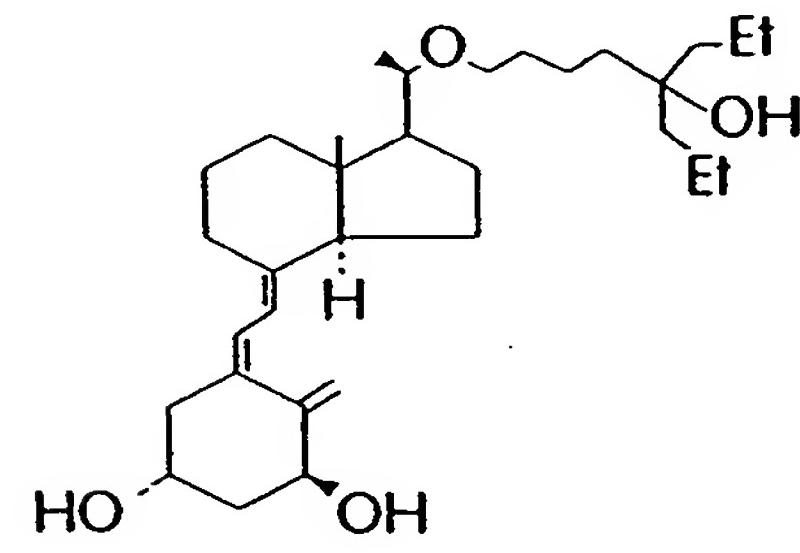
20-ene-23-oxa-
26,27-diethyl-
 $1\alpha,25-(OH)_2-D_3$

ZFQ



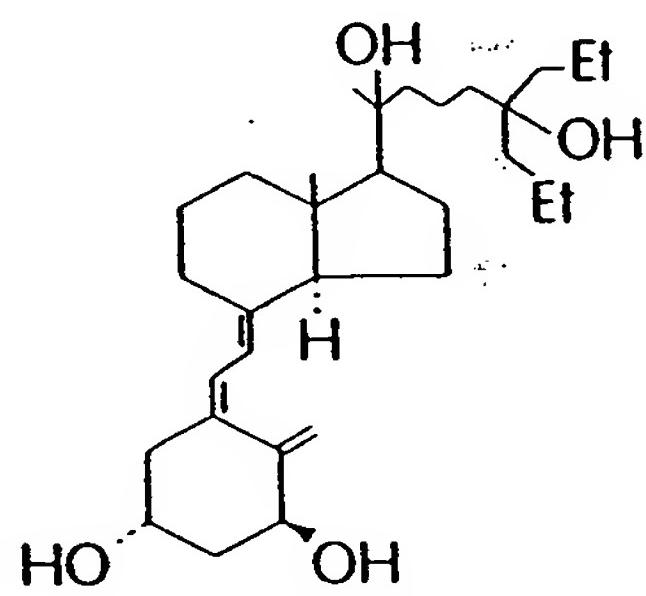
20,21-methano-23-oxa-
26,27-diethyl-
 $1\alpha,25-(OH)_2-D_3$

ZFR



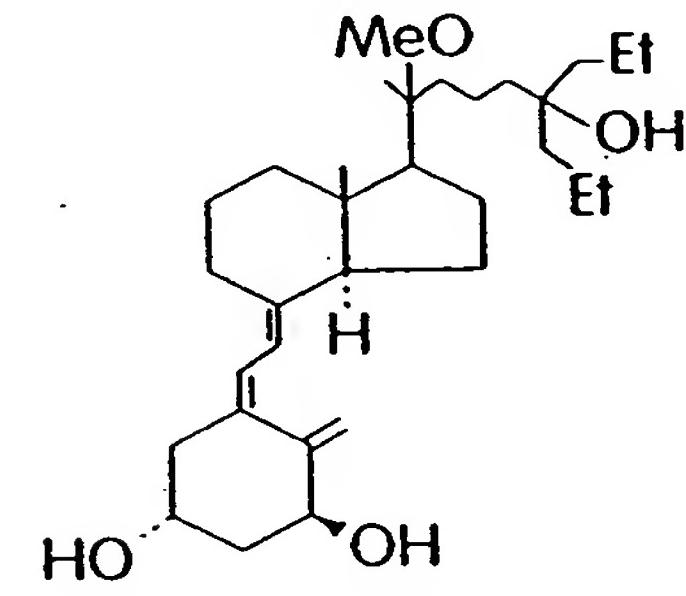
20-epi-22-oxa-24-dihomo-
26,27-diethyl-
 $1\alpha,25-(OH)_2-D_3$

ZFS



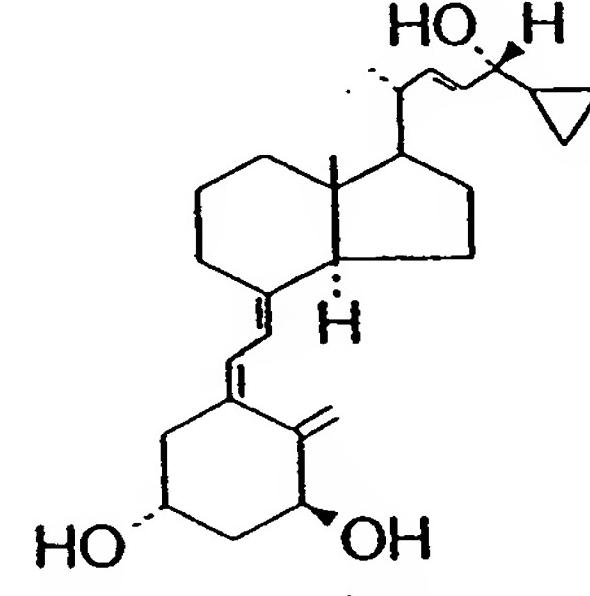
26,27-diethyl-
 $1\alpha,20,25-(OH)_3-D_3$

ZFT



20-methoxy-26,27-diethyl-
 $1\alpha,25-(OH)_2-D_3$

ZFU



22-ene-26,27-dehydro-
 $1\alpha,24R-(OH)_2-D_3$

ZFV

Fig. 1A-27

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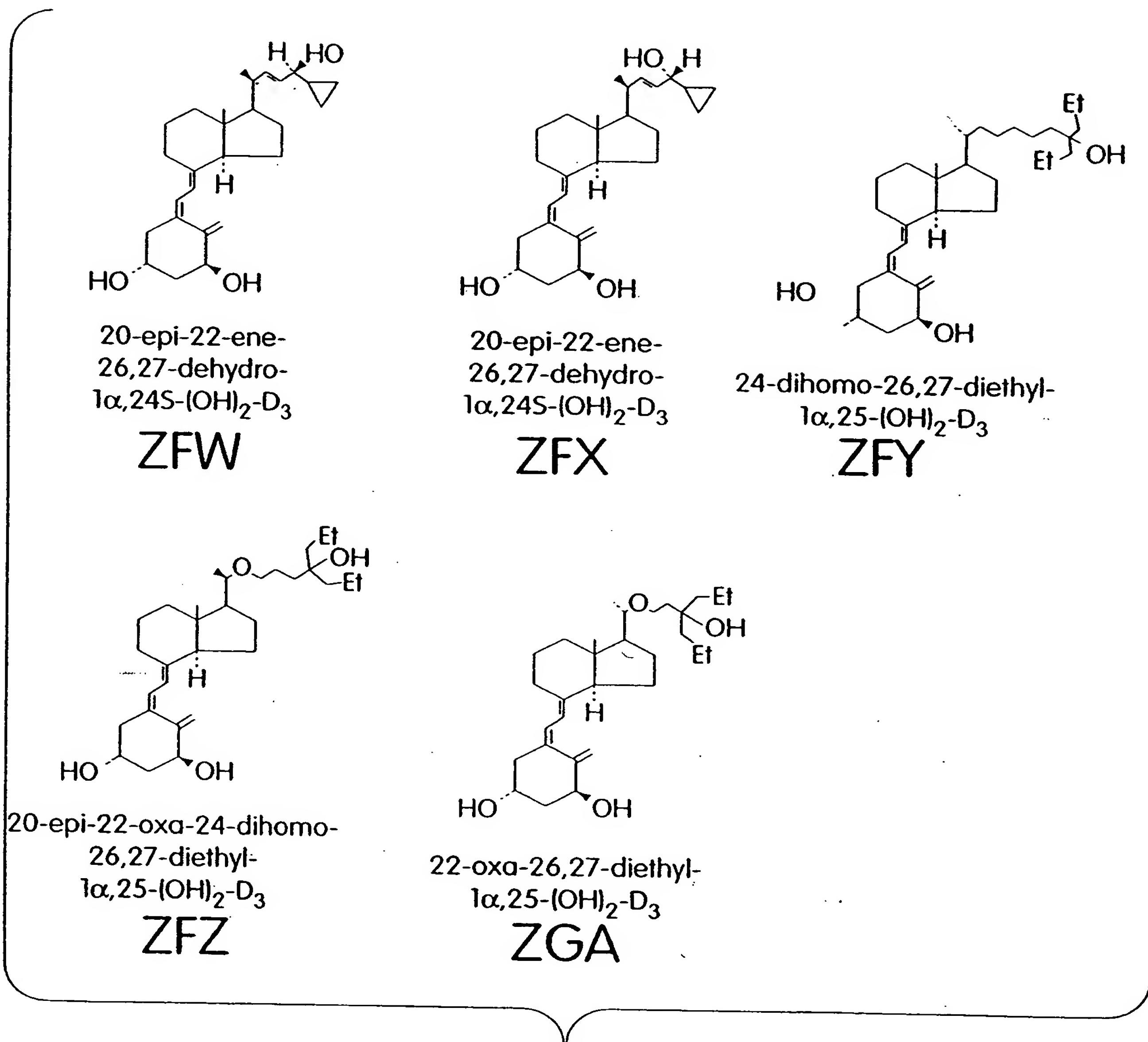


Fig. 1A-28

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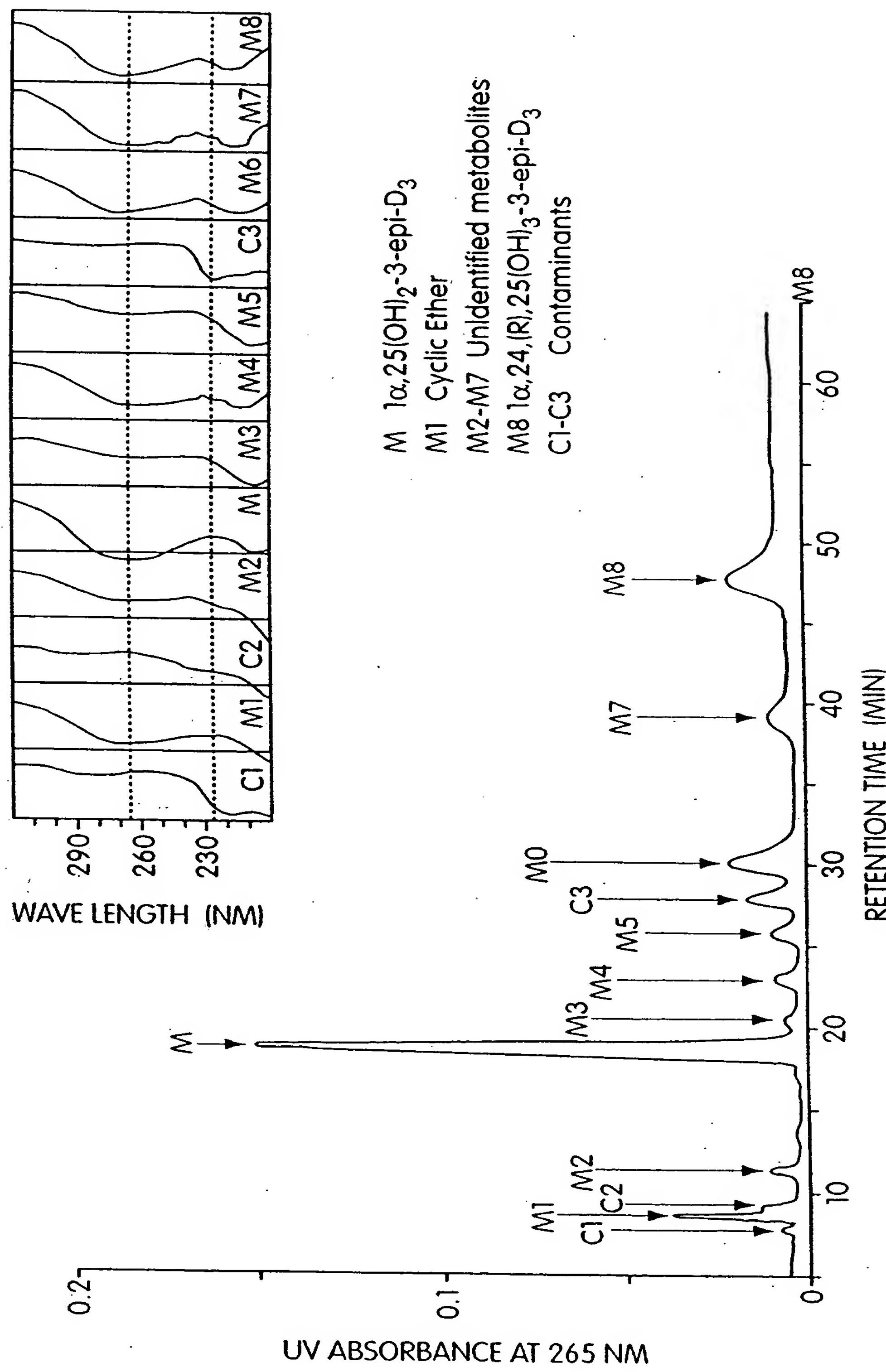
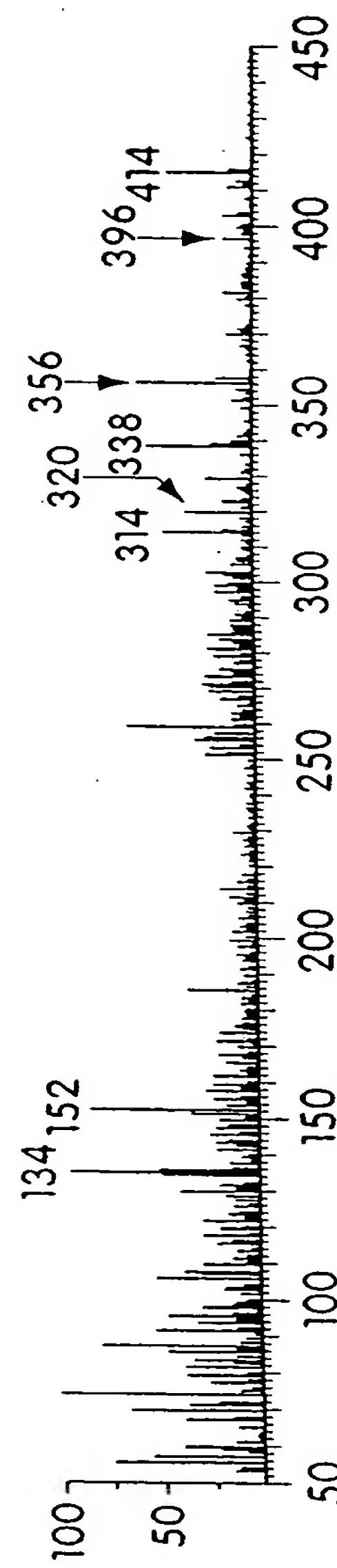
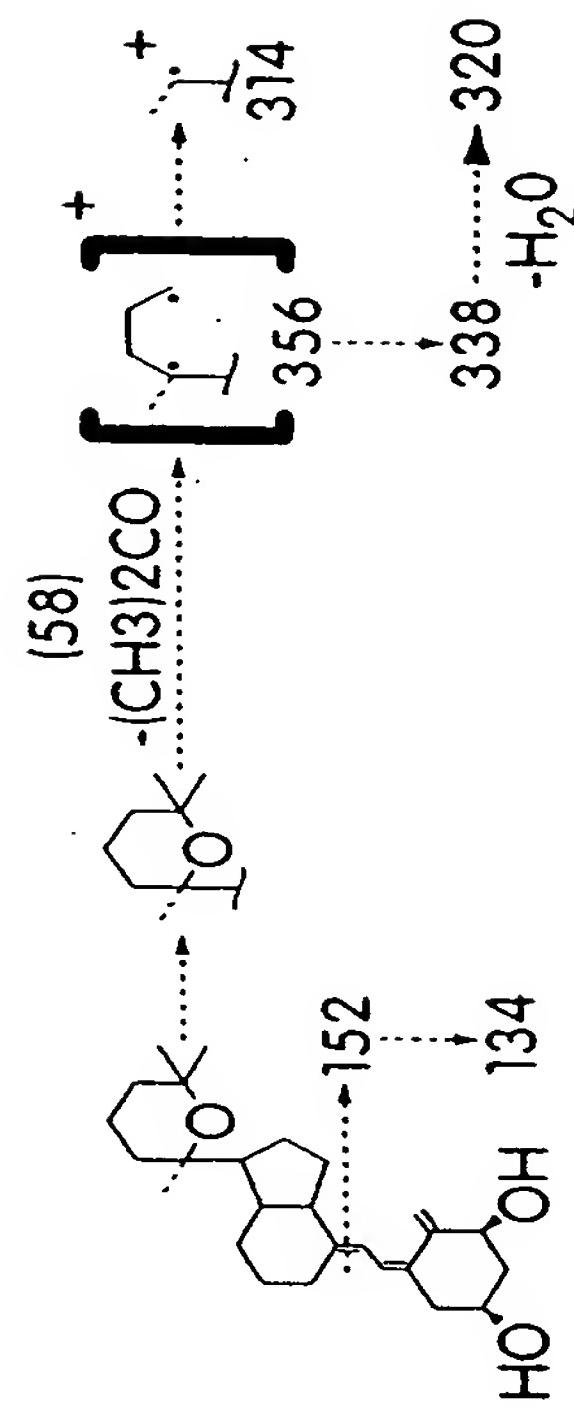
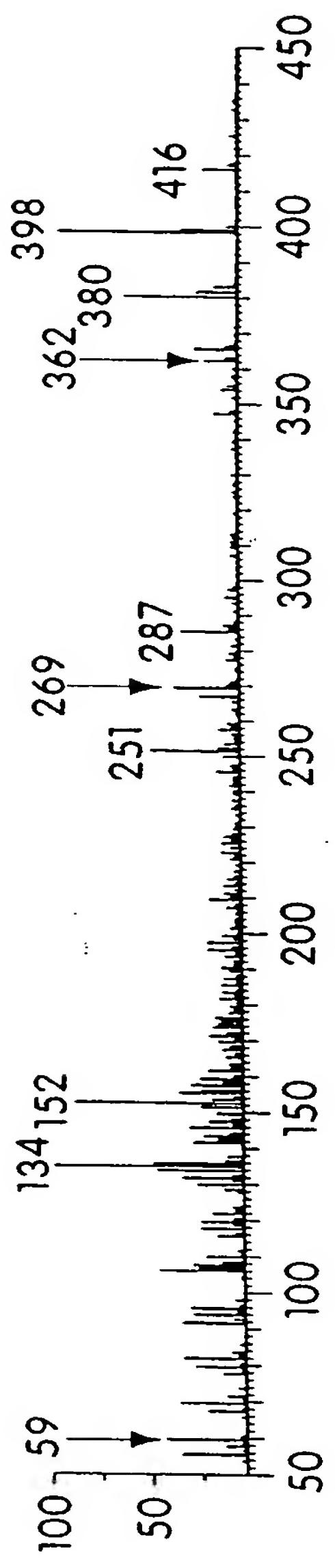
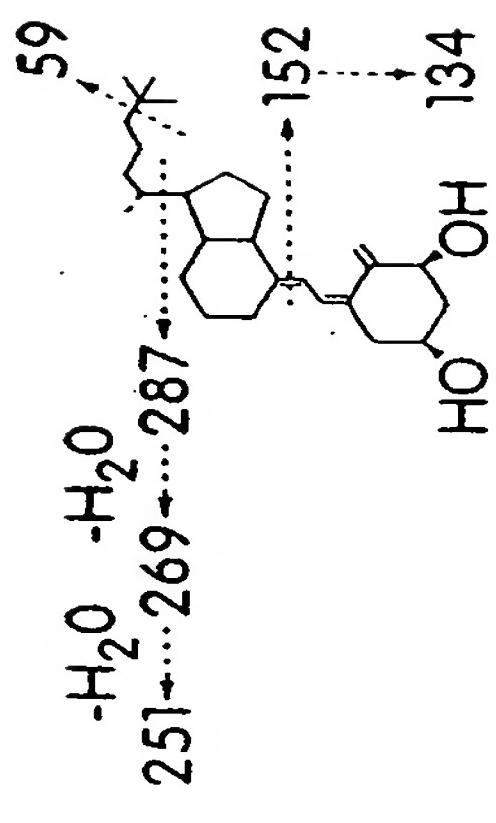


Fig.2



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Fig. 3

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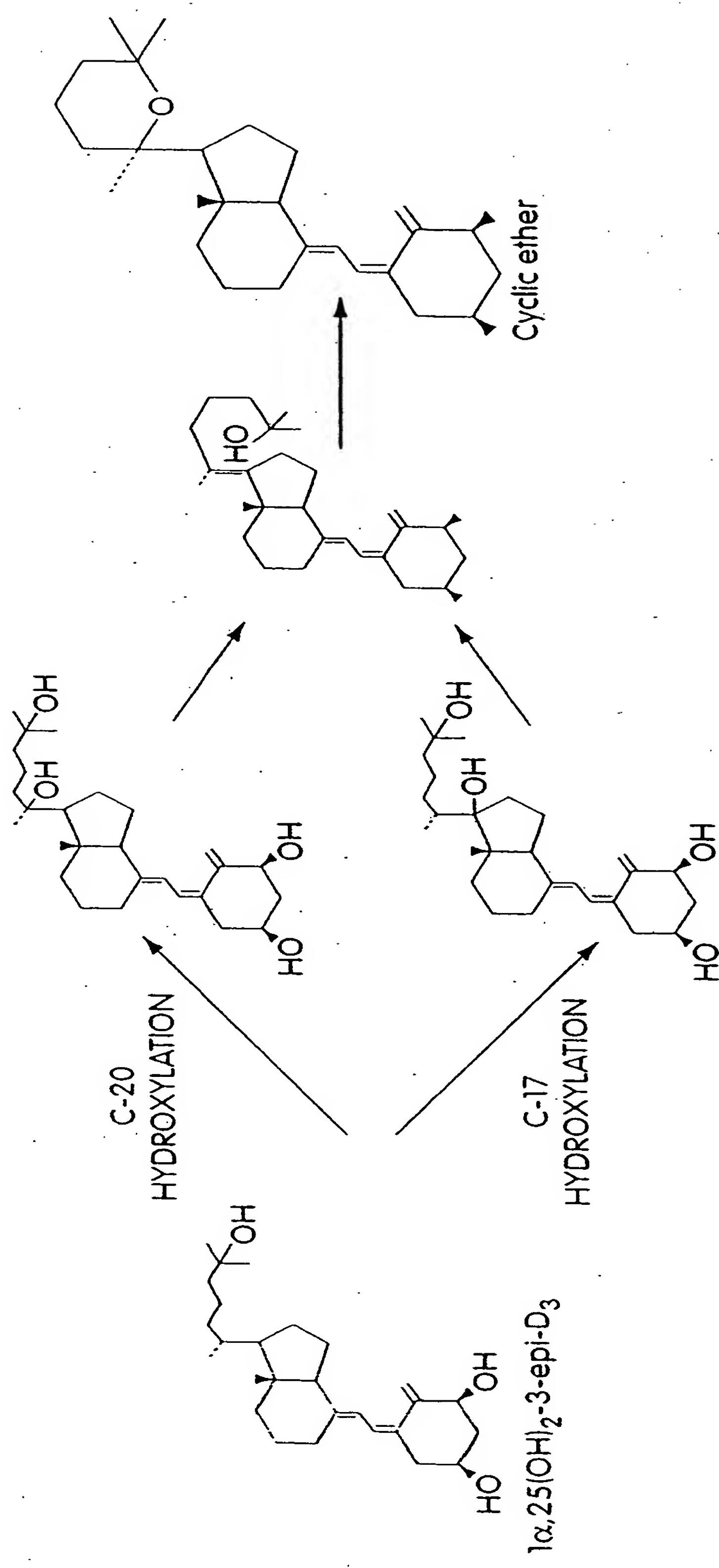


Fig. 4

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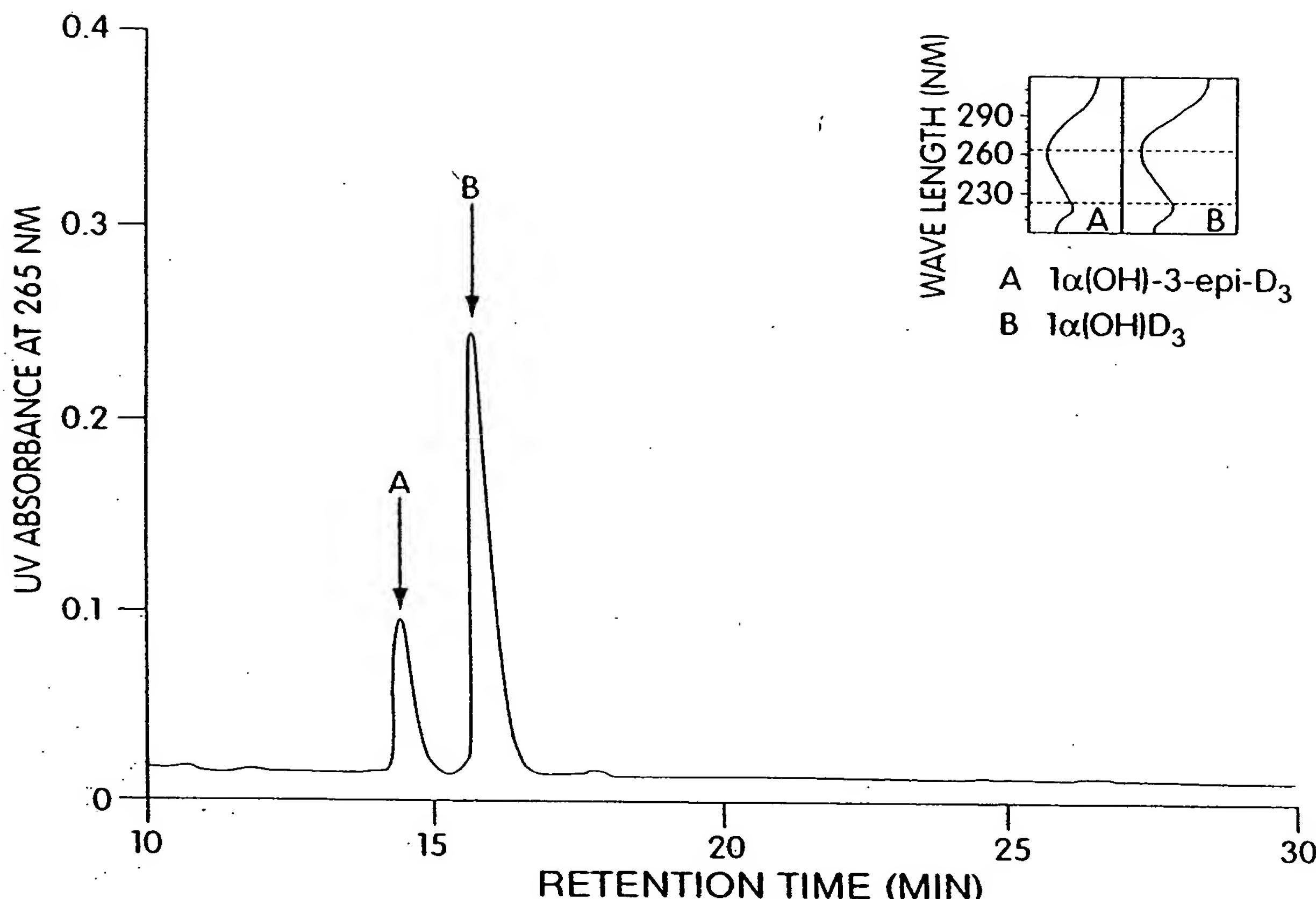


Fig. 5A

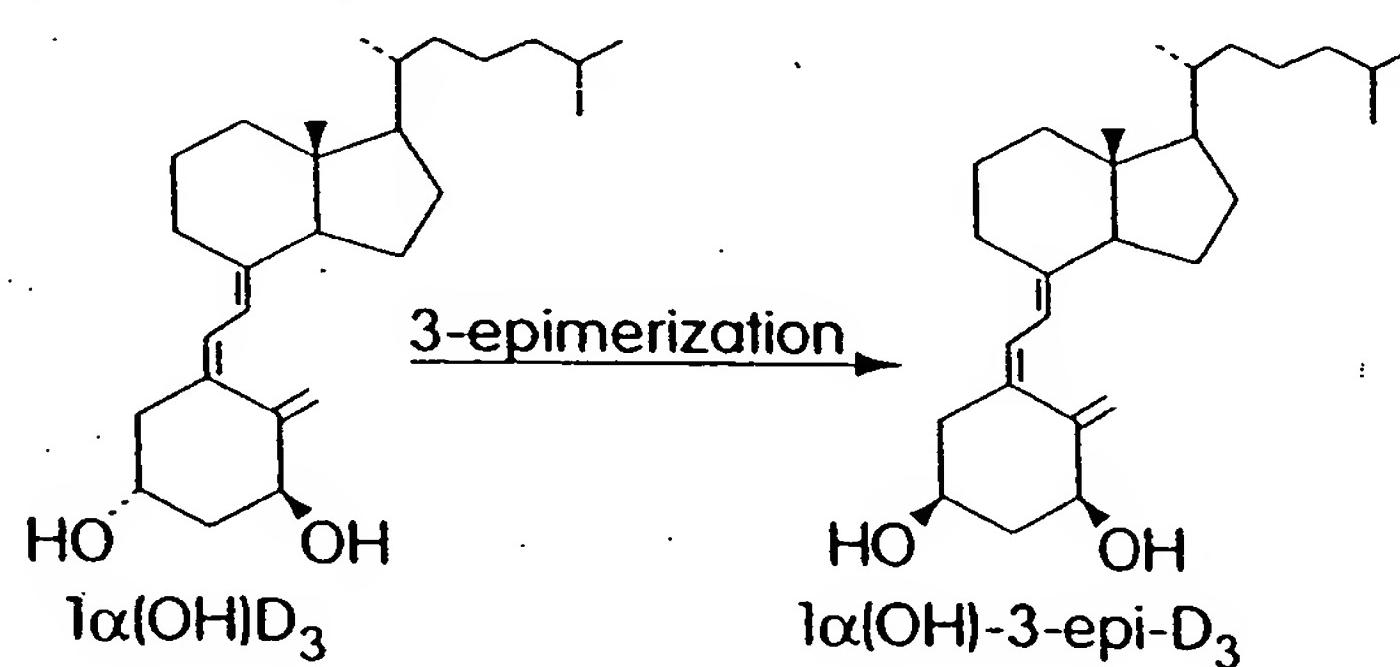


Fig. 5B

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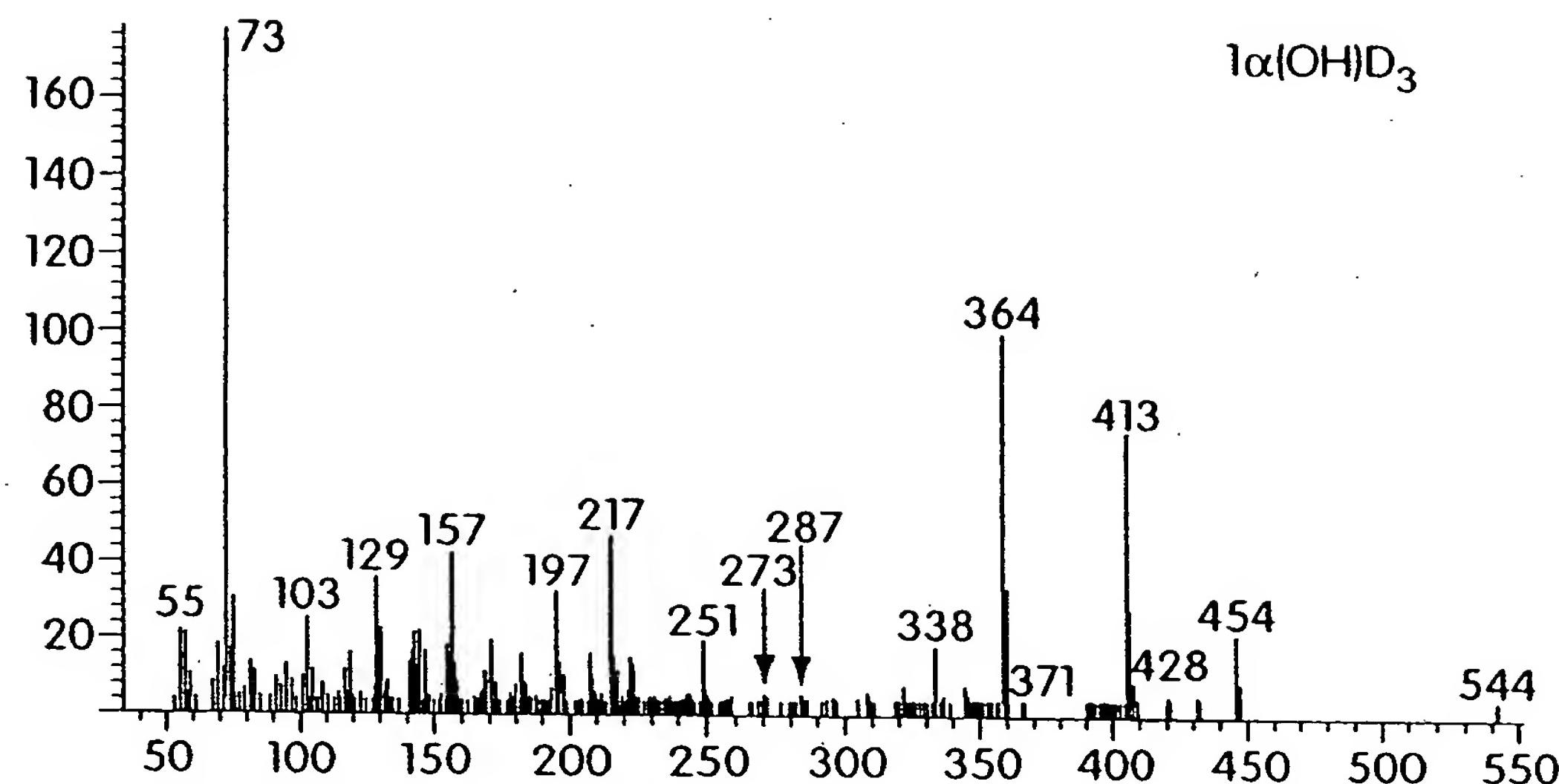


Fig. 6A

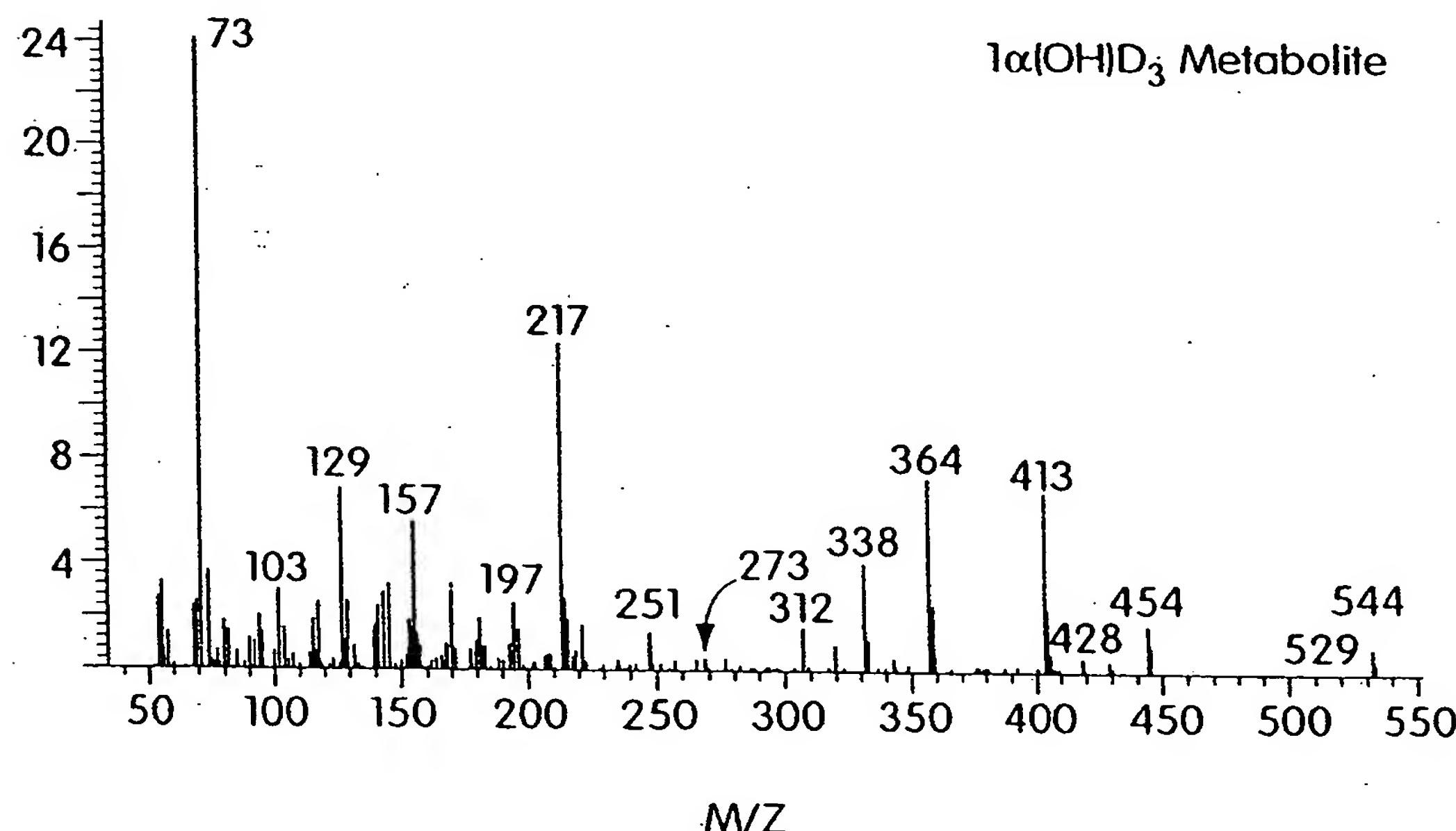


Fig. 6B

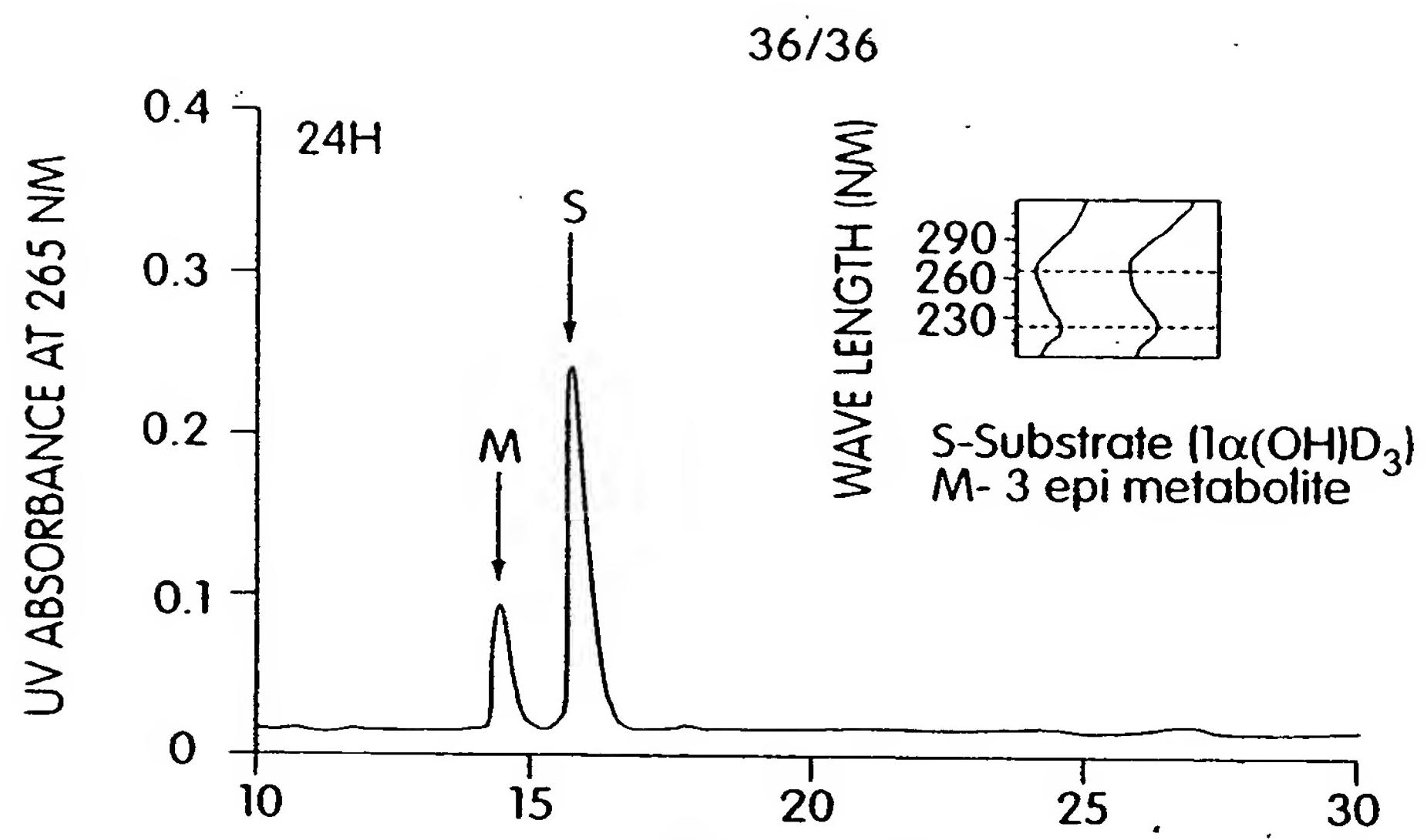


Fig. 7A

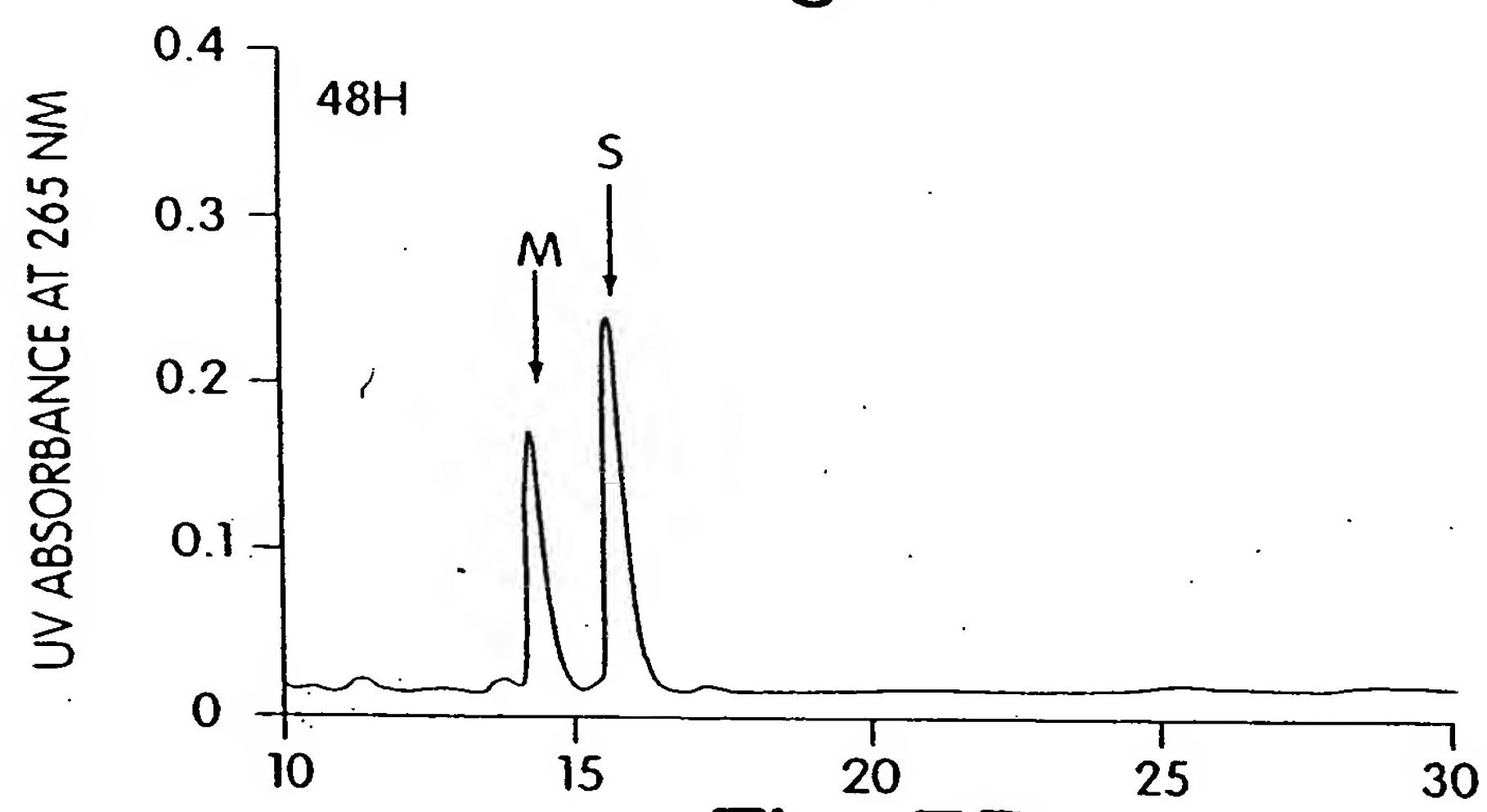


Fig. 7B

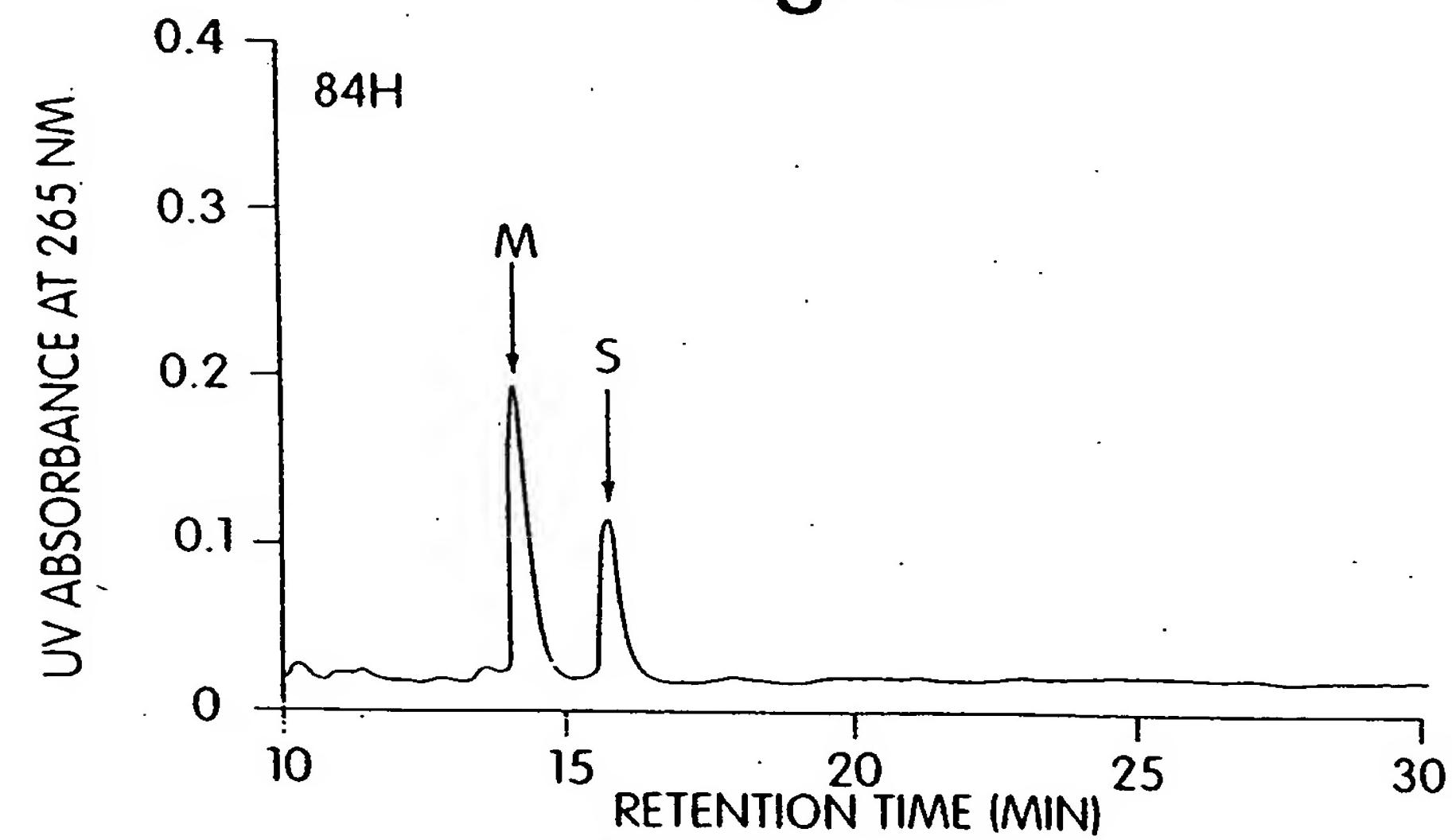


Fig. 7C